



Government of
Saskatchewan

Annual Report 1984-85

Saskatchewan Highways and and Transportation

This graphic illustration helps to demonstrate how far the Department of Highways and Transportation has come since its inception.

The table below is proof positive of our ongoing commitment to provide an efficient highway network to the people of this province.

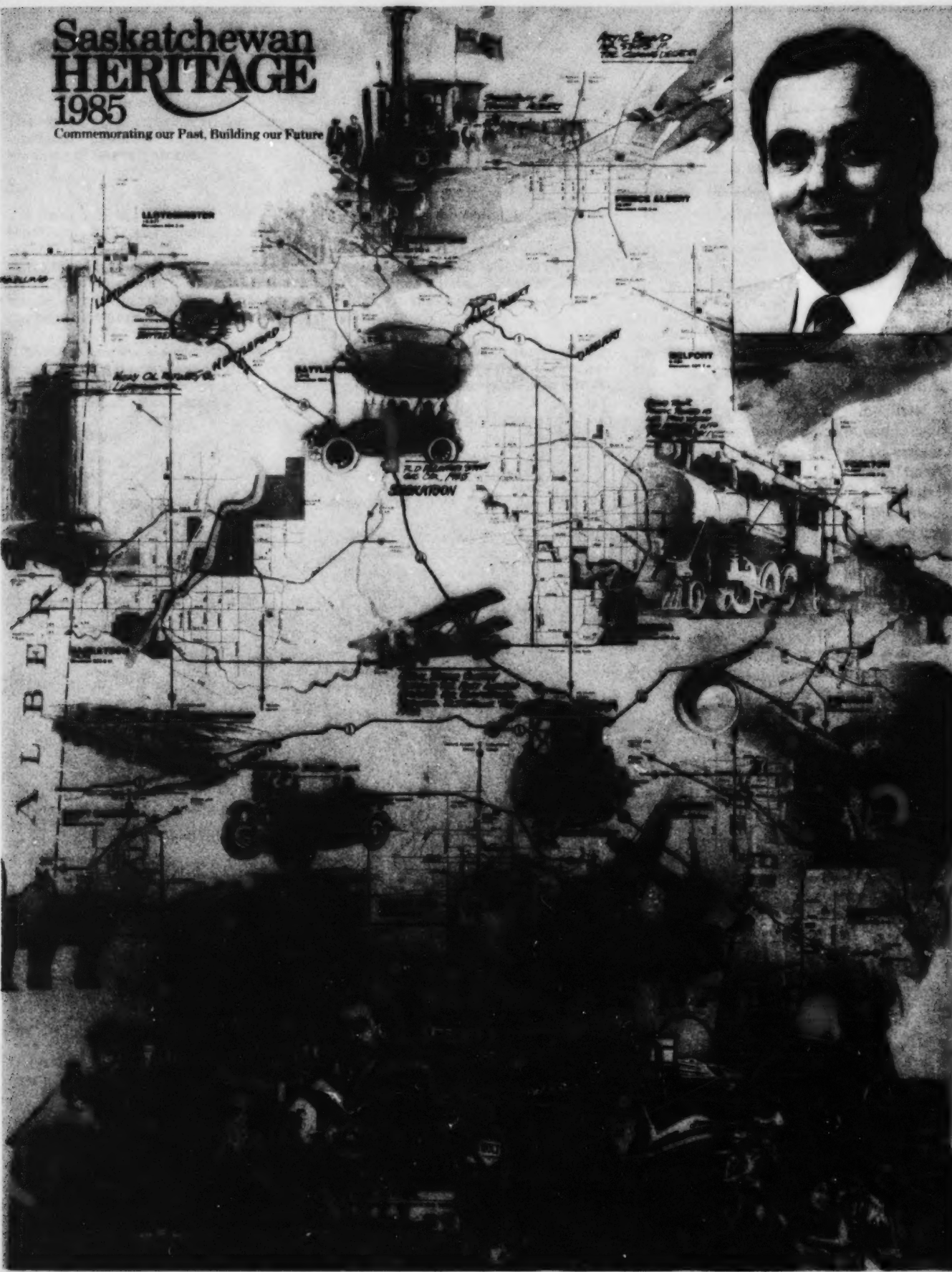
Length (in kilometres) of Roads Maintained by Department of Highways and Transportation

Year	Pavement	Oil Treatment	Gravel and Earth	Total
1917*	—	—	—	—
1942	250	—	13 590	13 840
1967	3 600	5 870	6 200	15 670
1985 (to March 31, 1985)	9 910	8 850	4 470	23 230

* Prior to 1923 all roads were maintained by rural municipalities with aid of grants paid by the department.

Saskatchewan HERITAGE 1985

Commemorating our Past, Building our Future



ALBERTA

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The Honourable Frederick W. Johnson
Lieutenant Governor
Province of Saskatchewan

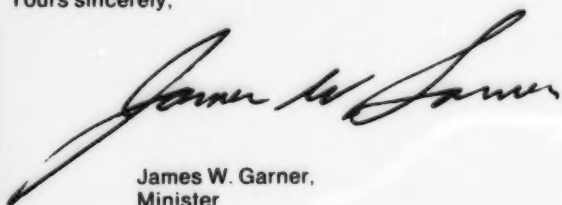
Sir:

It is a pleasure to submit to you the 1984-1985 Annual Report for the Department of Highways and Transportation.

Since the inception of the department in 1917, the face of Saskatchewan's transportation system has continually changed. As the increasing demands placed on the department became more complex we have not only kept pace with the demands but have also been at the forefront in transportation technology.

It is with confidence that I submit this review of activity on behalf of all department employees, past and present. Their commitment from years gone by as well as their ongoing diligence will continue to guarantee the road users of Saskatchewan a high quality transportation system.

Yours sincerely,

A handwritten signature in dark ink, appearing to read "James W. Garner". The signature is fluid and cursive, with a large initial "J" and "G".

James W. Garner,
Minister

April 1, 1985

The Honourable James W. Garner
Minister of Saskatchewan Highways and Transportation

Sir:

It is my pleasure to present to you the Annual Report of Saskatchewan Highways and Transportation for the fiscal year ending March 31, 1985. This report provides a comprehensive review of all aspects of department activities.

This was a most challenging year for the department as demands on the province's transportation system continue to increase. We are living in an era of rapid change and nowhere is it more evident than in the transportation sector.

The most pressing issues in transportation revolve around the provision of a system which will maintain and improve Saskatchewan's competitive position in the agriculture, resource and manufacturing sectors. The report of the Transportation Planning and Research Division indicates that the department has taken many positive steps to address some of these issues.

Continued emphasis is being placed on all aspects of safety. A School Bus Safety Review Committee was formed to consult the public on issues concerning our children's safety. In response to public concern the committee implemented a new "Stop When Lights Flashing" sign program; introduced the Stop-Arm Safety Device; distributed School Bus Educational kits to all kindergarten to grade three students in the province; and distributed an information kit to all school bus drivers. A new Driver's Handbook and a School Bus Drivers Handbook were also published. Highway worker safety was highlighted by the introduction of legislation requiring motorists to slow to a maximum speed of 60 kilometres per hour when passing highway construction workers. The department continues to give priority to safety improvements on provincial highways and to provide guidance and leadership in many traffic safety related areas. These safety efforts continue to show positive results as in 1984 total accidents in Saskatchewan declined by 20.5% over 1983. Deaths and injuries declined by 6% and 4.3% respectively.

Productivity improvement initiatives are being pursued and achieved on a continual basis. Major emphasis has been placed on the development and implementation of computer based systems which will provide information to allow improved management of the highway system. Significant improvements have been made to our maintenance and equipment management information systems. Conceptual design of a pavement management information system is well advanced. Other examples of productivity improvements are branch organization reviews, specialized management training and advances in equipment technology. Although this is only a partial listing of initiatives it does demonstrate that 1984 was a very productive year for department staff.

All department staff are to be complimented for their dedication and efforts during the past year and for the effective manner in which they provided efficient transportation services to the travelling public.

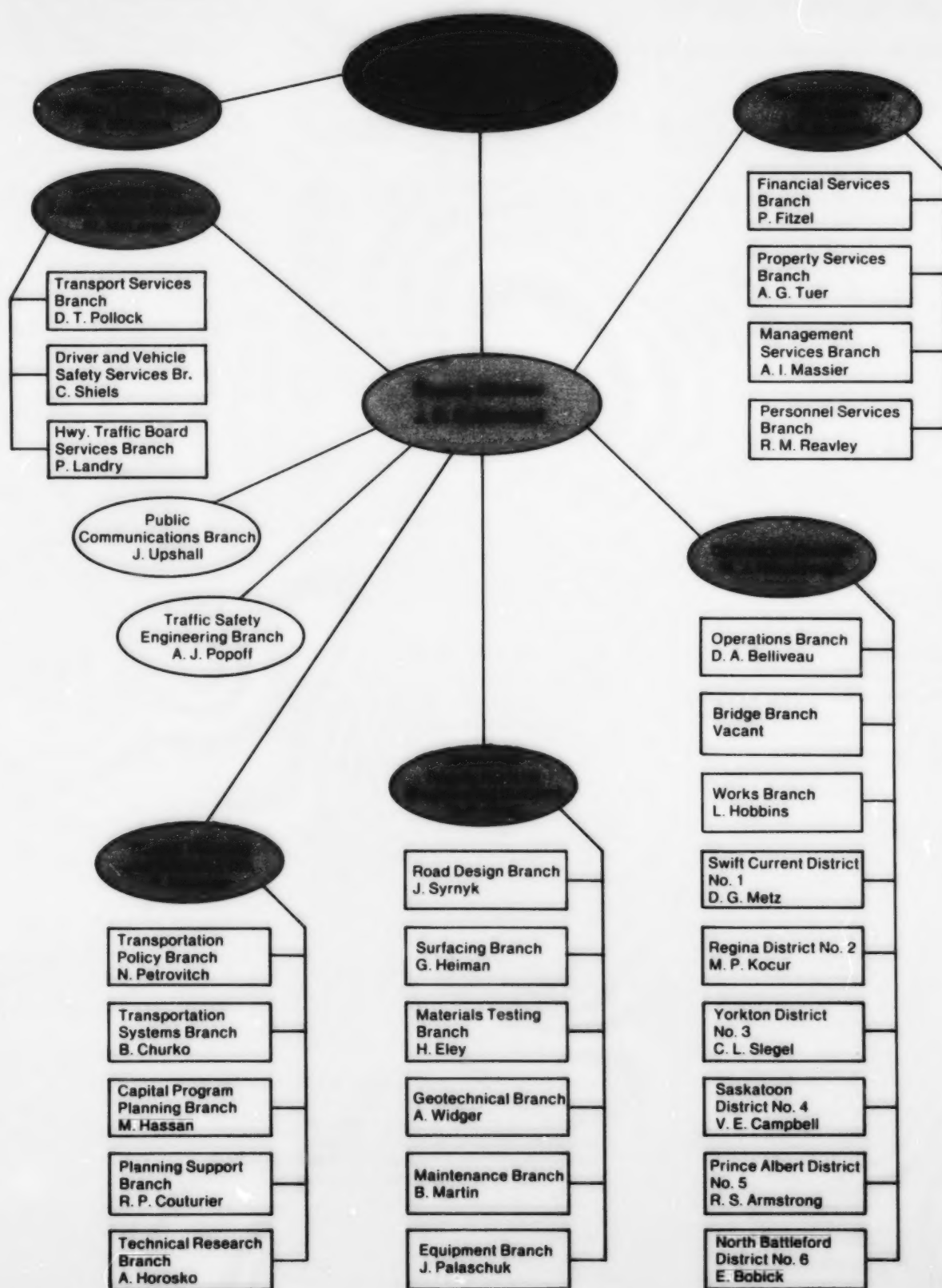
Respectfully submitted,



J. R. Sutherland,
Deputy Minister
Saskatchewan Highways
and Transportation



Organization Chart As of March 31, 1985



Major Objectives

- To formulate policies and programs for the purpose of developing improved transportation systems for the province.
- To provide continued emphasis to improve traffic safety.
- To concentrate on productivity improvements to achieve the best return from public funds committed to transportation.
- To provide and maintain the provincial highway system at an acceptable level of service and safety to all users.
- To provide transportation facilities necessary for social betterment and resource development.
- To assist urban centres in the development of highway connectors through urban areas.
- To provide assistance to improve and operate community airports throughout the province.

Mission

To plan, implement and manage an integrated multi-modal transportation system which provides for the safe, efficient movement of people and goods at a level of service acceptable to the public for the economic and social development of the province, within the mandate and resources provided by the Government of Saskatchewan.

The objective of the branch is to reduce traffic accidents, deaths and injuries in Saskatchewan, with special emphasis on provincial highways. To achieve this objective the branch is responsible for the following activities:

- managing a central traffic accident information system for Saskatchewan and provide relevant data to all users.
- investigating traffic accident locations and related traffic engineering studies.
- developing and monitoring an annual traffic safety improvement program for provincial highways.
- studying and recommending appropriate levels of posted speeds on highways.
- administering access control along major provincial highways.
- designing and ordering traffic signs and control devices used on provincial highways.

Safety Improvements and Studies

The department continues to give priority to safety improvements on provincial highways and to provide guidance and leadership in all traffic safety related areas. The branch reviewed 16 accident prone locations, carried out ten field studies for speed zones, and evaluated ten railroad signalization proposals. Eight traffic engineering studies were carried out and a major review was made on the effectiveness of the safety improvement program.

The department's high profile and commitment to traffic safety continues to pay dividends. In 1984 total accidents in Saskatchewan declined by 18.1% over 1983. Deaths reduced 6.0% from 235 in 1983 to 221 in 1984. Injuries dropped by 4.3% for a 13 year low at 7,904.

During the past 11 years the decrease of accident rates on provincial highways demonstrates the effectiveness of the safety improvement program.

- The injury accident rate decreased by 55%.
- The fatal accident rate decreased by 48%.

Traffic Accident Information System

In six years the Traffic Accident Information System (TAIS) has collected detailed information about 250,000 Saskatchewan traffic accidents. This data is available to traffic safety practitioners to develop and monitor accident countermeasure programs. TAIS is also a resource for researchers and educators.

A comprehensive annual traffic accident report was published and 3,800 copies were distributed. A pamphlet highlighting the information was published and 10,000 copies were distributed to educators and students. Monthly and quarterly output reports were sent to interested agencies. Two issues of a newsletter were published to communicate with the suppliers of data to TAIS and the users.

A weekly review and a monthly summary were made of all fatal accidents. Daily reports were made on selected serious traffic accidents.

The entry of TAIS data has been decentralized and the branch now enters 85% of all traffic accidents for storage by the Saskatchewan Computer Utility Corporation.

Traffic Control Devices

Traffic signs play an important role in efficient traffic operations and safety. Highway signs warn, inform about operational requirements, provide navigational directions, and help motorists locate facilities.

The branch developed policies, programs and sign designs to ensure uniformity. A total of 19,000 signs were designed and ordered. An Interdepartmental Sign Committee was established to co-ordinate traffic signing activities on all road systems.

A new program was implemented for Northern Outfitters and Farmers' Market signing adjacent to highways. Signing to all Provincial Parks was upgraded with a distinctive design.

Guide signs at five interchanges were refurbished. A saving of \$70,000 was achieved by the selective use of sign materials. A further \$42,000 saving was obtained in general signing programs using special aluminum alloys.

Traffic Safety Engineering Branch



Al Popoff



Other Safety Activities

The Seat Belt Survivor's Club has 2,350 members enrolled who testified about the value of seat belt restraints in saving their lives or reducing injury. A special presentation was developed for public service people who had seat belts save them while in the line of duty. The police made 100 membership presentations on behalf of the Minister of Highways and Transportation.

Branch staff presented a number of reports and papers to other agencies.

As part of the regulatory reform, the Control of Access regulations were consolidated. Controlled areas were reduced from 70 to 19.

The branch developed standards and a policy for flashing lights at intersections.

The branch assisted communities with their traffic safety efforts.

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Total Number of Accidents by Road System

Year	1978	1979	1980	**1981	1982	1983	***1984
Highways	4,425	5,921	6,005	6,211	6,008	5,561	4,877
Rural	9,205	5,007	5,403	5,631	5,154	4,753	4,025
Urban	22,428	33,386	33,538	25,510	28,487	28,921	23,208
* Other		3,196	3,328	933	717	620	536
Total	36,058	47,510	48,274	38,285	40,366	39,855	32,646

Injuries by Road System

Year	1978	1979	1980	1981	1982	1983	1984
Highways	2,143	2,318	2,407	2,266	2,155	1,967	1,822
Rural	2,727	1,616	1,684	1,772	1,598	1,477	1,421
Urban	3,987	4,685	4,301	4,350	4,510	4,597	4,453
* Other		462	492	272	253	221	208
Total	8,857	9,081	8,884	8,660	8,516	8,262	7,904

Fatalities by Road System

Year	1978	1979	1980	1981	1982	1983	1984
Highways	150	143	140	139	118	126	105
Rural	109	55	62	67	61	53	61
Urban	37	64	43	49	52	39	44
* Other		28	20	7	9	17	11
Total	296	290	265	262	240	235	221

* Other Locations include accidents that occurred in areas such as Parks, Indian Reserves, Provincial Forest Roads, or other areas not defined as a Provincial Highway, Rural Road, or Urban Street. (Included in Rural Roads prior to 1979).

** Beginning in 1981, private property accidents were not recorded on T.A.I.S.

*** Beginning in 1984, the minimum reporting threshold for property damage accidents increased from \$200 to \$500.



The mission of Public Communications is to communicate a positive identity of the Department of Highways and Transportation through educational and informational programs.

Branch staff achieve this mission by setting and adhering to four primary objectives:

- effectively communicating inter-branch activities, department policies, and changing trends in the transportation industry.
- gathering and assessing information to assist in the development of programs and projects to be communicated to the public.
- establishing approval systems, production procedures and distribution systems as they apply to communication materials.
- adhering to a professional code of ethics as set out by recognized communications associations.

Aside from these objectives, Public Communications performs two mandatory responsibilities.

- The branch co-ordinates the production and distribution of official and statutory publications.
- The branch provides an information service for public inquiries.

Highlights

The 1984-85 fiscal year ranks as one of the busiest and most exciting in the ten year history of the Public Communications Branch.

Branch activity centered mainly on the government's commitment to school bus safety. Branch staff co-ordinated a multi-media campaign that informed motorists that they must stop once a school bus has activated its stop arm. The campaign started in late August and concluded in early October. Branch staff were also responsible for developing an educational kit on school bus safety. The kit was distributed to every kindergarten to grade three student (70,000) in the province during the Saskatchewan Safety Council's, School Safety Week, October 17 - 23.

Branch staff entered the media campaign and the educational kit into the Canadian Public Relations Society's National Award Program, under the heading, "School Bus Safety Program". The entry recieved an honourable mention in the Community Relations category. The jury commented that the School Bus Safety Program was "well thought out and organized" and "overall a very good effort".

Another major project involved the complete revision of the Saskatchewan Driver's Handbook. Branch staff were responsible for the entire project which involved editorial co-ordination, artwork, pre-press production and distribution. The new Driver's Handbook is the most up-to-date of its kind in Canada. Included in the new handbook is an entire section devoted to driving technique. This feature is a first for any such publication of its kind in Canada.

The new Driver's Handbook was announced by the Minister at a special news conference during the Saskatchewan Safety Council's, Safe Driving Week, December 1 to 7. Introduced jointly was the new School Bus Driver's Handbook. Branch staff co-ordinated editorial content, artwork, pre-press production and distribution of this publication. The School Bus Driver's Handbook is the first publication of its kind prepared and provided for by the Saskatchewan Government.

The 1985 Official Highway Map was prepared and distributed toward the latter part of the fiscal year. The information side of the map paid tribute to Heritage '85 — Commemorating Our Past, Building Our Future. Special artwork depicting Saskatchewan's transportation heritage highlighted this portion of the map. The Executive Director of Saskatchewan Heritage, Mr. Cy MacDonald, wrote the Minister to express his personal thanks and that of Saskatchewan Heritage for a 'job well done'.

Still in the area of safety, branch staff were responsible for the Highway Worker Safety information campaign. This campaign introduced motorists to the law that traffic must slow to a maximum speed of 60 km/h when passing through highway construction zones. The campaign was launched in early May and concluded on the Labour Day weekend in September.

In the area of Information Service the effects of incorporating Highway Traffic Board Communications took full effect. Information requests nearly doubled from 675,000 in 1983-84 to 1,336,360 in 1984-85. Form orders increased 39% from 481,061 to 668,140. Prior to incorporation, form orders were at 10,512.

In regard to employee communications, the staff newsletter was re-named and given a new format. 'In Motion' now is published once every two months and comes in an 8½ x 11 magazine format. A number of new features highlight 'In Motion', but the most important is the formation of an Editorial Board. Since the department is de-centralized, board members volunteered from each of the

Public Communications Branch



Jack Upshall



districts, offices and branches across the province. They are responsible for collecting and directing news to 'In Motion's' editor. This is a novel approach to employee newsletters that has not been attempted elsewhere. To date, the input from the board has proved extremely successful and 'In Motion' is well on its way to becoming a truly 'employee' newsletter.

Finally the staff of Public Communications completed a series of communications audits. These audits are a management tool which assists branch staff in identifying objectives, goals and procedures that will improve overall unit productivity. As a result, the branch mission and objectives were re-written entirely with staff participation. The new mission and objectives better reflect the branch role in the department since Highway Traffic Board communications was incorporated.

Official and Statutory Publications

There were 550,000 1985 Official Highway Maps printed. This is an increase of 100,000 and was made at the request of Tourism and Small Business, which distribute approximately 80% of the publication.

Branch staff co-ordinated the publication of the 1983-84 Annual Report. There were 2,000 copies printed.

Branch staff also co-ordinated the printing and publication of the Traffic Accident Information System Annual Report. There were 3,800 copies printed.

Branch staff were also responsible for the printing and publication of the School Bus Safety Review Committee's Final Report on the 1983 hearings. There were 5,092 copies printed.

Information Services

Approximately 1,336,360 pieces of information were distributed to the public. There were approximately 2,998 telephone inquiries received on the general inquiry line.

There were 210 new releases prepared and 30 informational pamphlets prepared and distributed by branch staff totalling 699,400 pieces. There were 668,140 pieces of forms and letters prepared and distributed by branch staff. The number of news releases increased marginally but the number of informational pamphlets doubled and forms increased by 39%. As previously mentioned, the latter two increases were reflective of the full impact of incorporating Highway Traffic Board Communications.

A number of public information campaigns were also undertaken other than what was previously mentioned in this report.

The frequency and profile of the Highway Hotline information campaign was increased. In addition our Safe Driving campaign urged motorists to take extra precautions during winter months. Towards the latter part of the fiscal year the frequency and profile of Advance Notice of Spring Road Bans was increased. For the first time radio was used for Advance Notice advertising. The Highway Traffic Board attributed a decrease in spring ban violations to the improved Advance Notice campaign.

There were 8,000 copies of the 1984 Construction Map printed. Rather than pamphlet form, the Construction Map was printed in a poster format which proved very popular.

Toward the latter part of the fiscal year branch staff were responsible for the preparation, printing and publication of the Layman's Draft of Proposed All Terrain Vehicle Legislation. There were 1,500 copies printed.

The branch was responsible for preparing and staffing five displays, including festivities surrounding National Transportation Week's grand inaugural dinner held in Saskatoon in May. One major official opening was organized in October to honour completion of construction of four lanes between Indian Head and Qu'Appelle.



The mission of the Operations Division is to implement and administer operational programs and manage the designated provincial transportation facilities for the department within the specified levels of service and resources. The Operations Division responsibilities are carried out through six districts and three head office branches.

During the last year Works Branch was added to the Operations Division as part of the ongoing organizational changes. Organizational reviews were carried out in the Operations and Bridge Branches with a view to streamlining of the functions and services to be provided. The Prince Albert District shop operations were consolidated in the former Department of Northern Saskatchewan equipment repair facility located in Prince Albert.

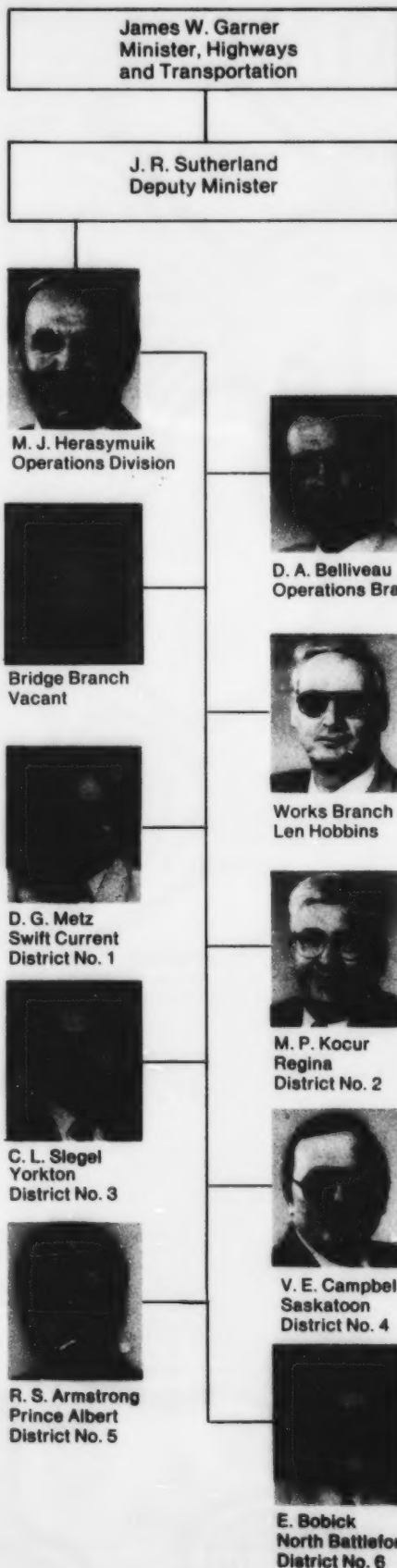
The early on-set of winter caused a number of capital construction projects to be carried over into the 1985-86 fiscal year. Contracts were awarded and construction commenced on major bridges on Highway No. 16 over the North Saskatchewan River near Borden and on Highway No. 17 over the North Saskatchewan River north of Lloydminster. The second set of lanes on No. 1 Highway was completed and opened to traffic from Qu'Appelle to Indian Head. Work on the Yellowhead Highway from Paynton to Maidstone was also completed. In total 245 km of grading and 512 km of paving were completed.

The riding quality of the highway system was maintained at a high level during the year. Winter maintenance began the middle of October with above normal snow falls experienced in the Yorkton and Prince Albert areas. Tribute is paid to the maintenance staff for their many hours of surveillance and snow and ice control to provide a safe and convenient highway system to the travelling public.

Productivity improvements were carried out in many of the division activities. Continued emphasis in the next year will be placed on improving the managerial effectiveness of the division as well as in the delivery of the department's programs. Details of specific programs and accomplishments are provided in the following individual branch and district reports.

M. J. Herasymuik

M. J. Herasymuik
Executive Director
Operations Division



Operations Division



Operations Branch

Operations Branch provides executive, technical and financial services to the Operations Division.

Major Activities

Management of centralized activities related to tendering, scheduling and contract administration.

Development and control of department annual capital and maintenance programs and budgets.

Administration of purchasing construction and maintenance materials.

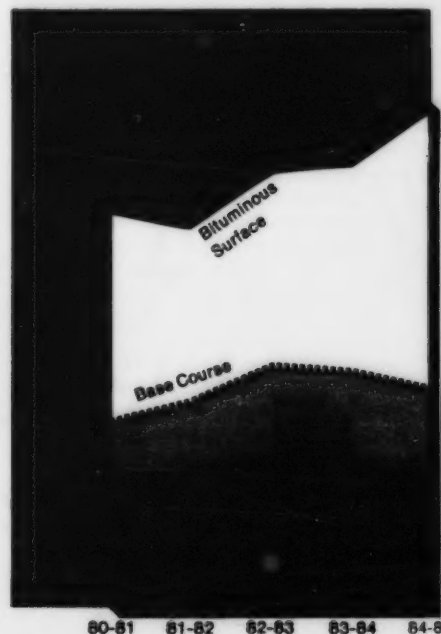
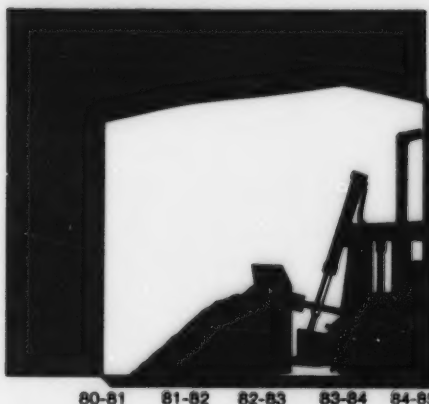
Co-ordination of cost-shared programs.

with the previous year, 15 more tenders were issued with a \$9.7 million increase in the value of contracts awarded.

Contracts are tendered throughout the year to provide a balanced workload for contractors. In the fall and winter, heavy emphasis is placed on processing aggregates so that much of the hauling can be done in the winter to minimize damage to haul routes and to create winter work.

Unit bid prices for earth work decreased slightly, while unit prices for surfacing items were in line with the bid prices received in the previous year.

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Construction Tenders

One hundred and four construction tenders valued at \$60 million were awarded during 1984-85. In comparison



Grading

The amount of earth excavation work completed during the year was 6 842 524m³.

There were 245 km of new construction completed with 51 km grading work under way at year end.



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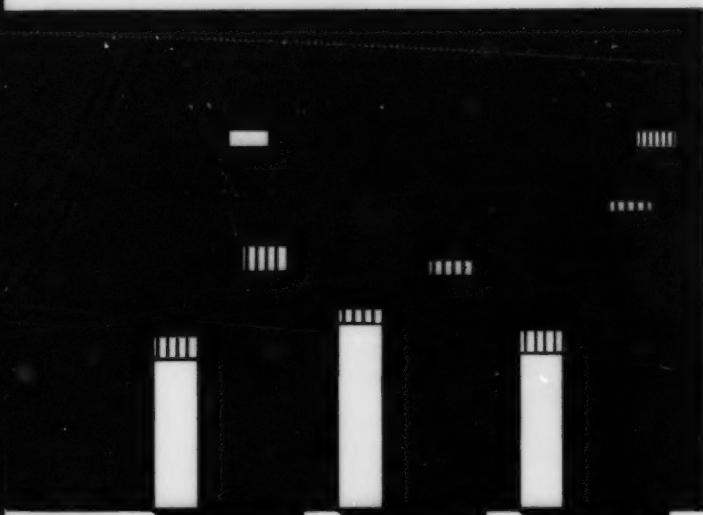
Surfacing

The quantity of bituminous mix used on contracts in 1984-85 increased to 549 034 t from 379 341 t. The quantity of sub-base and base material used in 1984-85 was 2 132 614 t compared to 2 035 417 t in 1983-84.

During the year 84 km of oiling, 100 km of AMOS and 412 km of pavement were completed.

Urban Transportation Assistance Program

Under the Urban Street Assistance Program \$8,628,113 was provided to assist 57 communities to improve streets. In addition, a total of \$110,342 in financial aid was provided to 26 communities under the Urban Traffic Safety Program.



82-83 83-84 84-85



82-83 83-84 84-85



Airport Assistance Program

Thirty-one local governments participated in the Airport Assistance Program administered by the branch. The department provided \$307,923 in assistance under the program. The department also spent \$88,923 towards the installation of non-directional beacons at five airports. \$4,319 in capital costs was spent at three provincial airports.

Rural Transportation Assistance Program

Operations Branch administered a program to provide transportation services to communities in rural areas not presently served by other public transportation.

The provincial government, through the Department of Highways and Transportation, underwrites the net operating cost of seven routes which totalled \$149,070 in 1984-85.

In addition to the above routes, Operations Services also administered the bus lines into Sandy Bay and Deschambault in Northern Saskatchewan. During the year, \$62,990 was spent on these two northern feeder service lines.

Other Highlights

Automatic railway crossing signals were installed at seven locations during the year at a cost of \$41,915.

The department provided lighting at 61 highway intersections at a cost of \$251,746.

121,267 calls were handled on the department's Hotline Winter Road Information Service.

300 purchase orders for construction and maintenance materials valued at \$32,879,000 were processed.

641 payments to contractors were processed totalling \$55,846,700.



Bridge Branch

The Bridge Branch mission is to design, construct, maintain and manage the bridge component of the department's road transportation system and to provide a source of structural and bridge-related expertise for other department and government units.

Design

Design work was completed for 12 precast concrete and timber bridge projects involving approximately 1500 m² of roadway area. Plans were also prepared for traffic barrier retrofits totalling 780 m of barrier and involving 14 bridges.

The branch also prepared details and plans for the modification of the approach ramps to the ferry located near Riverhurst.

Construction

Contracts were awarded and construction started for the major bridge located on Highway No. 16 over the North Saskatchewan River near Borden. Phases one and two, which involve construction of the bridge substructure and erection of structural steel, were satisfactorily completed.

Three piers were constructed under contract for the major bridge being constructed on Highway No. 17 over the North Saskatchewan River north of Lloydminster.

Major improvements were completed on a 216 m bridge located on Highway No. 3 near Birch Hills and on a 315 m bridge located on Highway No. 376 near Maymont. The work included restoration of the concrete bridge deck, installation of a waterproofing membrane on the deck surface, and the re-installation of the asphalt wearing surface.

Four new bridges were constructed using standard modular components of precast concrete. Ten bridges were widened and one timber bridge reconstructed in conjunction with grading projects.

Maintenance

Concrete bridge deck resurfacings using dense concrete overlays were completed on four grade separation structures located near Swift Current.

Minor repairs were completed on another 103 bridges located throughout the highway system. Five structurally sub-standard bridges were replaced by culvert installations.

Other Activities

Programmed inspections were done on a total of 165 bridges, and the concrete decks of 20 bridges were monitored for the corrosion rate of the steel reinforcement.

The branch assisted in the evaluation of 15 requests for overload permits concerning bulk commodity hauls, and reviewed 500 referrals for permits for single trip overloads.



Summary of Bridge Work Done During 1984-85 on Provincial Highways

Highway and Control Section Number	Location	Description of Work
1-17	Over CPR east of Swift Current.	Major deck repairs to 45 m three span steel girder bridge.
1-17	Over Swift Current Creek.	Major deck repairs to 55 m four span reinforced concrete beam bridge.
1-18	Over P.H. No. 4 at Swift Current.	Major deck repairs to 84 m four span prestressed concrete girder bridge.
1-18	Over 11th Ave. N.W. in Swift Current.	Major deck repairs to 51 m three span prestressed concrete girder bridge.
3-9	Over South Saskatchewan River near Prince Albert.	Major deck repairs to 216 m four span steel girder bridge.
9-12	Over Lilian River north of Preeceville.	Widen existing 18 m three span wood pile bridge.
9-15	Over Otosquen River north of Hudson Bay.	Construct 24 m two span pile bridge with precast concrete deck.
16-23	Over North Saskatchewan River near Borden.	Construction of 301 m five span steel girder bridge.
17-7	Over North Saskatchewan River north of Lloydminster.	Construction of three piers.
18-13	Over MacDonald Creek near Mankota.	Construct 24 m two span pile bridge with precast concrete deck.
26-3	Over Englishman River south of St. Walburg.	Raise and widen 18 m three span wood pile bridge.
28-2	Over Long Creek near Radville.	Install W-Beam barrier on 24 m concrete bridge.
40-4-41	Over Cutknife Creek near Rockhaven.	Construct 30 m two span pile bridge with precast concrete deck.
43-3	Over drainage channel near Vanguard.	Widen 6 m wood pile bridge.
43-3	Over drainage channel near Vanguard.	Widen 18 m three span wood pile bridge.
43-3	Over drainage channel near Vanguard.	Widen 12 m two span wood pile bridge.
106-03	Over Ballantyne River north of Smeaton.	Construct 30 m two span pile bridge with precast concrete deck.
167-02-08	Over Mosher Creek near Denare Beach.	Construct 6 m wood pile bridge.
334-02	Over drainage ditch east of Avonlea.	Widen 6 m wood pile bridge.
334-02	Over drainage ditch west of Corinne.	Widen 6 m wood pile bridge.
334-02	Over Willow Creek west of Corinne.	Widen 12 m two span precast concrete bridge.
334-02	Over drainage ditch west of Corinne.	Widen 9 m precast concrete bridge.
334-02	Over Moose Jaw River west of Corinne.	Widen 30 m five span wood pile bridge.
368-02	Over Goosehunting Creek south of Beatty.	Raise and widen 6 m wood pile bridge.
376-03	Over North Saskatchewan River south of Maymont.	Major deck repairs to 315 m four span steel girder bridge.



Works Branch functions in four main areas; grading, surfacing, bridges and winter road construction. The branch provides these and other specialized construction services for the Department of Highways and Transportation and other government departments and agencies.

The branch employs between 130 and 160 people during the construction season. These include equipment operators, truck drivers, plant operators, cooks, administrative personnel and supervisors. The nature of work usually requires people to be away from home for long periods of time, working out of mobile self-contained camps.

Grading Section

One grading crew moved 460 000 m³ of earth material during the fiscal year.

325 000 m³ of earth material was moved on Highway No. 106 near Big Sandy Lake during the period of May 15, 1984 to November 10, 1984.

An additional 135 000 m³ of earth material was moved in the muskeg area of the new location of Highway No. 106 north of Big Sandy Lake with a 50-50 mix of private and government equipment during the period of February 19, 1985 to March 28, 1985.

During the construction of No. 106 Highway, 236 man hours and 212 equipment hours were provided to assist the Department of Parks and Renewable Resources with fire suppression at Besnard Lake, Big Sandy Lake and the Wapawekka Hills area.

The grading crew also constructed one km of access road into Little Bear Lake at Mile 62 of the Hansen Lake Road and 10.5 km of access road into the Village of Deschamps Lake at Mile 54 on Highway 955 north of La Loche.

Surfacing Section

Three surfacing crews completed various road and custom work projects throughout the province. Projects included cold mix bituminous surface coarse, lime stabilization, thermopatch and subgrade preparation.

The crews completed 50 km of cold mix bituminous surface coarse, 10.7 km of reworked cold mix, 141 675 m² of deep patching, 19 custom work projects, and filled 8,684 depressions and 1509 m of wheel ruts with sand sulphur asphalt mix.

Bridge Section

The seven bridge crews constructed 63 new bridges and repaired 113 existing bridges. 1217 m of concrete curb and sidewalks were constructed in the Town of La Loche.

Major bridge deck repairs were carried out on the Muskoday and Maymont Bridges along with four bridges in the Swift Current District amounting to 7321 m² receiving a high density concrete overlay. A 30 m walk dock was constructed for use by Nor-Sask Electric in the unloading of fuel from the barge at Wollaston Post. Eighty-five piles were driven for a floating dock at Elbow Harbour for the new careers program of the Department of Parks and Renewable Resources.

Winter Roads

40.3 km of winter road was constructed to Wollaston Lake from Hidden Bay on Highway No. 905. Three alternate routes for an ice crossing over Old Wives Lake southwest of Moose Jaw were selected for a possible sodium sulphate haul from Bishopric to Chaplin by Saskatchewan Minerals.

Training

Works Branch completed 64 man days of training in management, safety and air brake courses.

Works Branch



Swift Current District

12

Swift Current District staff are responsible for 4248 km of highway and 58 km of tourist facility roadways.

Most of the construction and maintenance projects in the district were completed despite an early onset of winter.

Design and Testing

The Design section is responsible for designing highway subgrades, safety improvement projects, illumination projects and miscellaneous projects for the special construction program. This section also operates the District Materials Laboratory.

The Design staff completed 64 km of subgrade design and 53 km of preliminary survey during the year. Soils laboratory staff processed a total of 8,022 samples for gravel pit control, subgrade and pavement design, and construction contract administration. In addition, two consultants were commissioned in 1984-85 and they completed 35 km of preliminary survey and 28 km of subgrade design.

Construction

The Construction Engineering Section is responsible for the supervision of construction projects, the materials location program and the supervision of cost-shared programs.

During the year, 69.1 km of subgrade were constructed and 151.6 km surfaced of which 69.1 km were cold-mix bituminous surface course.

Some of the major projects completed were:

- the resurfacing of the eastbound lanes on the Trans Canada Highway from Beverley to Webb.
- recycling of the existing shoulder pavement and the resurfacing of Highway No. 44 from Elrose to Plato.
- the grading and paving of Highway No. 13 (Red Coat Trail) from Eastend to the Claydon grid road.

The materials location crew conducted material searches which resulted in the location of 648 500 m³ of sand and gravel.

Maintenance

Surface maintenance activities were begun early in the season and, due to very dry conditions, continued uninterrupted until October, when an early snowfall curtailed activity.

Maintenance forces used 344 500 t of processed aggregate, 65 600 t of bituminous mix, and 15 895 000 L of liquid asphalt to maintain public and provincial highways within the district.

District crews also repaired 21 km of failed subgrade and seal coated 465 km of paved and oil treated surfaces.

The district operates 25 section crews and five special crews, located in 21 communities within the district to carry out the maintenance program on the district highway system, consisting of the following:

- 145 km gravel surface
- 2717 km oil treated surface
- 1220 km paved surface
- 166 km paved surface (4-lane)
- 58 km tourist facility roadways



The Regina District is responsible for 4853.57 km of provincial and public highways, including 103.11 km of tourist facility access roads.

The district highway system was increased approximately 16 km which includes the addition of 2.66 km of frontage road west of White City, take over of 6.45 km of municipal road west of Moose Jaw to connect Highways No. 1 and 363, extension of 0.30 km of Highway No. 56 at Indian Head and retention of 2.0 km of Highway No. 1 at Indian Head as a frontage road.

In addition to regular maintenance activities, major highway improvements included subgrade, surfacing, rehabilitation and seal coat construction work.

Design and Testing

During the year 44.51 km of field survey, 54.77 km of subgrade design and 122.49 km of pavement design was completed.

353 000 m³ of sand and gravel was tested and located. Construction and maintenance activities used 581 698 m³ of sand and gravel. Public organizations and private individuals obtained 165 709 m³ of gravel under 109 separate permits.

Construction

Construction crews graded 74.69 km and surfaced 74.02 km. Another 44.7 km of paved highway was rehabilitated.

The district administered 30 major grading, paving, seal coat and aggregate crushing contracts. The Highway No. 1 four-lane was extended to east of Indian Head and opened to traffic.

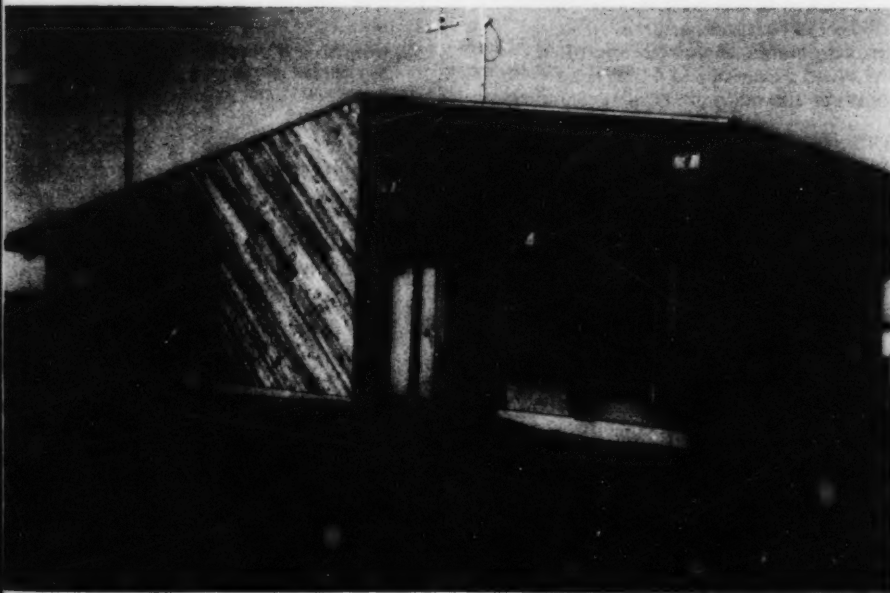
Subgrade and pavement construction was completed on Highway No. 361 west of Lampman and the southbound roadway of Highway No. 11 east of Findlater. Also, Highway No. 18 was paved between Outram and Torquay and Highway No. 334 was graded west of Corinne.

The early onset of winter caused considerable work to be deferred to the 1985-86 fiscal year. The planned paving of Highway No. 9 between the U.S.A. Border and Alameda, grading and paving of Highway No. 363 west of Moose Jaw and the paving of Highway No. 35 north of Weyburn were not completed.

The new Moosomin Weigh Scale was put into operation in March, 1985. The scale is located eight km east of Moosomin. This modern facility will allow the trucks to be weighed more quickly than the old scale at the junction of Highways No. 1 and 8 west of Moosomin.

Regina District

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The new Moosomin Weigh Scale, 97 m² in size, is a modern, efficient facility employing state of the art weighing equipment. The new facility has the scale capacity to weigh the largest units allowed to drive on Saskatchewan highways.



Maintenance

Maintenance crews produced 96 500 t and applied 69 970 t of asphalt patching mix, seeded 176 ha of grass and mowed 10 046 km of grass along shoulders and highway roadsides. Contractors applied 431.9 km of seal coat on oil treatment and paved highways.

Highway maintenance is provided with 34 section crews and six special crews located in 31 communities throughout the district.

New section maintenance headquarter buildings were completed at Fairlight and Francis.

Large salt storage buildings were constructed at Regina, Moose Jaw, Weyburn and Carlyle. These buildings will allow sufficient salt material inventory to provide ice control services during prolonged or frequent ice storm conditions when salt deliveries could be severely limited.

Shareable Programs

The Cities of Regina, Moose Jaw, Weyburn and Estevan received a total of \$3,467,047 under the Urban Assistance Program for street and traffic safety improvements.

The City of Regina started major construction work on Arcola Avenue and interchanges on the Ring Road at Dewdney and Ross Avenues.

Thirteen urban centres under a population of 5,000 received a total of \$345,100 for street and traffic safety improvements. Seven communities received a total of \$124,050 to develop, operate and maintain community airports.

Urban Assistance Programs provided funding for urban street maintenance for 102 communities. The department provided \$35,000 to the 50 communities that participated.

Other Activities

Highway safety and miscellaneous special construction improvements included improving subgrades with lime, improving roadway drainage, constructing loadometre sites, improving road information signs and providing safer highway accesses.

In addition, 26 intersections were delineated with one or two street lights. In the City of Regina, street lights were installed on Lewvan Drive south of Regina Avenue. Partial street lighting was provided at the Highways No. 1 and 6 interchange. Guardrail was installed at 12 sites which included 11 bridges.

A Heritage Resource Impact Assessment Study was performed along Highway No. 334 at the Avonlea Creek crossing. Heritage and cultural artifacts were identified and recorded prior to the planned future upgrading of Highway No. 334.

District staff successfully negotiated 216 property purchase and miscellaneous damage agreements.

District Winter Road Information Service (Hotline) received 57,148 telephone inquiries between April 1, 1984 and March 31, 1985. The hotline was operated at Regina, Weyburn and Moose Jaw.



The Yorkton District is responsible for 3050 km of provincial highway system, 60 km of tourist facility access roads, and the maintenance of the Provincial Airport at Hudson Bay.

Design

The Design Section carried out 16.49 km of preliminary survey and

36 km of highway design during the fiscal year 1984-85.

In addition, 50.23 km of preliminary survey and 45.18 km of highway design were completed under commission to engineering consultants, as well as an access study relative to five km of Highway No. 9 through the City of Yorkton.

Construction

Construction Section staff supervised seven grading and four surfacing projects during the year which realized the completion of 33 km of subgrade construction and 58 km of surfacing. Staff supervised six gravel crushing contracts. Six grading and three surfacing projects were carried over into the 1985-86 fiscal year.

The major projects completed during the year were:

- surfacing on Highway No. 8 from Moosomin to Rocanville.
- surfacing on Highway No. 381 from the Manitoba Border to MacNutt.
- surfacing (rehabilitation) on Highway No. 10 from Otthon to Melville.

The early onset of winter resulted in an early shut down of the grading projects in the district which increased the amount of carry over of grading into the 1985-86 fiscal year.

The district came close to completing the grading project on Highway No. 15 between Leross and West of Lestock. The project entails the upgrading of the last section of Highway No. 15 in the district from an old and narrow oil treated surface to a high standard highway.

Maintenance

The district experienced one of the worst winters in a number of years with snow fall 32% above average, 177 cm against 134 cm average, with a resulting budget over-expenditure of 16%, \$1.719 m against \$1.478 budget.

Maintenance Section produced 55 300 tonnes of bituminous mix and applied a seal coat on 350 km of highway surface. An average pavement performance rating of 5.8 was attained on oil treatment surfaces.

The highway system maintained by district forces includes:

- 224 km gravel surface
- 1105 km oil treated surface
- 1721 km paved surface
- 60 km roadway within campgrounds and provincial parks
- 15 picnic and campground sites

To accomplish the maintenance work, the district has 20 Section Crews, three Gravel Sectionmen and four Special Crews in 19 communities.

Two new section equipment storage buildings were constructed at Norquay and Rocanville, with the local Section Crew occupying the buildings in June.

Materials

Materials Section staff completed 45.3 km of grade hole drilling, 16.5 km of stratigraphy drilling, and 60.9 km of borrow pit testing for subgrade and surfacing design purposes.

Gravel Location Crews identified three new sand and gravel deposits and re-tested five existing department-owned pits. The searches verified an additional 2 443 500 m³ of granular material.

Staff issued 67 permits to public institutions and private individuals who removed 102 252 m³ of sand and gravel from department-owned pits this year. District construction and maintenance activities used an additional 417 867 m³.

Staff completed four pavement designs totalling 63 km of highway, three major geotechnical project reports and provided guidance on the preparation of geotechnical reports, grading soils plans and field testing done by private consulting firms.

Other Activities

In addition to the normal administration duties, district administrative staff processed a total of 893 windshield claims resulting from the rubber asphalt seal on Highways No. 9 and 16.

Twenty-two communities participated in Assistance Programs that included Urban Assistance, Urban Traffic Safety and Municipal and Private Airports assistance.

Delineation lighting was installed at 14 different intersections, with a pedestrian crossing signal installed on Highway No. 35 in the Town of Wadena.

The Special Safety Improvement Program included the installation of guardrail at four bridge locations, the installation of cable guardrail on a fill section on Highway No. 9 and the construction of an intersection at Columbia Street and Highway No. 10 at Melville.

Yorkton District



Saskatoon District

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The Saskatoon District, which is the core of the province abutting all five remaining highway districts is responsible for 2491 km of the provincial highway system.

Highlights that were recorded this year include:

- the continuation of Highway No. 41, Saskatoon to Melfort.
- the opening of a new Materials Testing Laboratory in July, 1984 to house upgraded facilities.
- the construction of an 82' diameter Salt Storage Dome in Saskatoon to increase salt storage requirements and to reduce salt dust pollution.

Design Section

This section carried out 23 km of highway location, 30 km of field survey and 46 km of subgrade design. Additional projects designed were; guardrail installations; intersection treatments and delineation lighting at intersections.

The functional design of one highway to highway interchange was completed. In addition, the final design of two interchanges in the vicinity of Saskatoon was completed.

A Heritage Resource Impact Assessment was carried out and completed for the remainder of Highway No. 41 Wakaw to Melfort. Mitigation measures on one heritage site in the Wakaw Lake area were carried out.

Eight communities were assisted financially under shared cost programs for upgrading local transportation systems.

Construction Section

Fifteen contracts were supervised by this section including 21.2 km of subgrade, three intersection treatments, 7 km of recycled hot mix, 9.6 km of Pavement 'B', 1.4 km of Pavement 'A', and 10.6 km of Pavement 'C'.

Two communities were assisted through the Custom Work Program and two provincial parks were assisted with roads and parking.

Maintenance Section

Maintenance section supervised two seal coat contracts and one contract for stockpiling bituminous mix.

Maintenance Improvements:

deep patching	10 630 m ²
thermo patching	70 km
re-oiling	47 km
seal coat on paved highways ..	105 km
seal coat on oiled highways ...	160 km
pavement shimming	5 km
stockpiling of bituminous mix ..	27 910 t
seeding right-of-way	97 ha
screened aggregate for ice control	4 860 t
cal treat sand for ice control ...	1 200 t

Winter Maintenance:	10 620 t of salt
	6 720 t of sand
	1 200 t of cal treat sand
	45 t of CaCl

Maintenance costs were \$8,136,188 of which \$2,016,138 was for winter maintenance and \$2,096,713 was for special maintenance projects. The Saskatoon Road Information Service (Hotline) handled 54,886 telephone calls throughout the winter.

Materials Section

Materials section completed surfacing designs for 17 projects, and prepared geotechnical pre-engineering reports for eight others in the Saskatoon and Swift Current Districts. Seven projects were analysed for potential lime modification repairs. Several projects were the subject of specialized studies including terrain analyses and subgrade performance characterization. Cost shared resurfacing proposals from nine urban centres were assessed. Seal coat test sections were implemented in each of the Saskatoon and Swift Current Districts, including continued monitoring of the performance of the Saskatoon Section.

Laboratory staff performed approximately 12,000 individual tests on various material samples taken during field explorations.

Field exploration activities included:

- 158 km of subgrade investigation
- 208 km of soils prelim
- 190 km of stratigraphic boreholes
- 112 km of borrow and select borrow testing
- 34 km of G.I. and CBR testing
- 18 km of core sampling

The gravel location section tested four new deposits and retested 14 existing sources of gravel and sand. The field exploration verified 538 000 m³ of gravel and 180 000 m³ of sand at a cost of \$0.17/m³.



The Prince Albert District is responsible for 4804 km of public and provincial highways. The district is also responsible for the maintenance and operation of the Uranium City and La Ronge Airports and for the maintenance of nine gravel airstrips.

Design and Testing

Design staff completed 67 km of preliminary surveys and 58 km of final design during the year. Six detailed location studies were also completed. One of the most challenging projects was design of 29 km of new location for Highway No. 106 north of Big Sandy Lake.

Gravel location crews located four new gravel sources containing approximately 370 000 m³ and seven new sand sources containing 220 000 m³. These new sources will result in considerable savings in future haul costs. Ten existing gravel sources were re-assessed, after use, to determine remaining quantities.

District Lab staff provided test results on aggregates and soils for use by Design and Construction staff and for the provision of information to contractors bidding on department work. Test results on 4,700 individual samples were completed.

Construction

During the year 49 km of subgrade were constructed along with 62 km of pavement and 39 km of oil treatment.

Reconstruction of Highway No. 106 continued with work taking place in the vicinity of Big Sandy Lake. Other grading underway included projects on Highway No. 12 south of Shell Lake, Highway No. 378 in the vicinity of Rabbit Lake and on Highway No. 368 north of Pathlow. Completion of these projects was delayed due to the wet fall and early winter.

Resurfacing of Highway No. 2 south of the junction of Highway No. 165 was completed with all of the existing surfacing structure salvaged and incorporated into the new pavement. Other completed projects included resurfacing on Highway No. 3 east of Mildred, on Highway No. 35 in the vicinity of Sylvania, on Highway 2 south of Prince Albert and on sections of Highway No. 23 in the Crooked River vicinity. The oil treatment of a 27 km section of Highway No. 106 north of Smeaton was also completed in 1984.

Other projects administered by District Construction staff involved several safety and drainage improvements on the highway system and the supervision of special maintenance mixing, sealing and crushing projects.

Prince Albert District

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New salt storage facility located in Prince Albert.

In 1984, a first for the department was the provision of eight large dome-shaped salt storage facilities at various locations in the province. The building can store up to 1000 t of salt providing a sufficient amount to fill salt requirements during extended storms. The facility is large enough to allow semi dump trucks to unload inside the building, eliminating salt leakage and waste.



Maintenance

The highway system maintained includes 2220 km of gravel, 1114 km of oil treatment and 1470 km of pavement.

A variety of improvements were carried out as follows:

deep patching	39 000 m ²
seal coats	195 km
clay capping	86 km
dust treatment	322 km

Winter snowfall was about 50% above average which made winter maintenance difficult. Credit goes to the many staff who worked long hours to restore the highway system to good driving conditions after winter blizzards. Three large salt sheds capable of storing over 1000 t each were erected in 1984. These sheds located at Prince Albert, Melfort and Tisdale helped to ensure that adequate salt inventories were available when required.

During the year the district shop operations were consolidated in the former Department of Northern Saskatchewan equipment repair facility in Prince Albert. Shop staff provided excellent service to repair and overhaul a fleet of approximately 800 units including equipment assigned to the Works Branch.

Other Activities

In addition to the normal administration duties, District Administration staff processed 119 over-dimensional permits, 85 material requisitions, 130 gravel and sale of material invoices, 1,020 construction and maintenance material invoices and 570 custom work and barge billings. Excellent results were again achieved in the area of processing accounts for payment in a timely manner.

A total of 14 communities participated in assistance programs that included Urban Assistance, Airport Assistance, and Urban Traffic Safety.

Delineation lights were installed at five different intersections.

Winter roads were operated from Cumberland House to Sturgeon Landing and from Highway No. 905 to Wollaston Lake.

The Wollaston Lake barge operated from June 19, 1984 to October 5, 1984, making 162 crossings to the community of Wollaston Lake.



The North Battleford District is located in the north-west corner of the province and is responsible for 4191 km of public and provincial highways along with eight provincial airports.

Design

Design Section staff completed and updated the design on 73 km of grading and eight tender packages were completed.

Materials

Surfacing designs were completed on three projects and updated or revised on three projects. Check testing for quality control was carried out on the active construction projects.

The District Lab was opened April 1, 1984.

Other Work Included:

- testing on ten existing gravel pits and 28 gravel pits were re-surveyed and quantities and plans updated.
- location of approximately 680 000m³ of gravel.
- 43 quarter sections of Crown lands were checked for sand and gravel.
- clay searches on Highways No. 165, 914 and 918.
- a Tramping Lake Study was conducted on properties and performance of saline alluvium filled valleys.
- the performance of a salt specification study.
- the performance of a salt storage site study for Pinehouse and Meadow Lake.

Construction

During the year 14 km of subgrade were constructed and 83.2 km surfaced including 9.3 km of hot mix pavement.

The district's construction work was administered through 16 contracts.

Upgrading of the Yellowhead Route between North Battleford and Lloydminster continued. Shoulder widening and minor relocation on the section between Paynton and Maidstone was completed.

Surfacing continued on Highway No. 155 north of Buffalo Narrows. Oil treatment surfacing was extended from the junction at Highway No. 909 to 23 km north.

Surfacing was completed on Highway No. 21 from 22.6 km north of Kerrobert to 36 km north of Kerrobert. Major surfacing continued on Highway No. 14 west of Unity and has now been completed from Unity to 48 km west in the vicinity of Evesham.

Surfacing was undertaken and completed on the access road to Rockhaven.

Subgrade construction on Highway No. 55 west of Meadow Lake was completed to 34 km west of Meadow Lake. Subgrade construction on Highway No. 26 south of the junction with Highway No. 3 commenced during the fall of 1984.

In the northern community of La Loche sidewalk construction was completed.

A new winter road was constructed from Highway No. 955 north of La Loche into the northern community of Deschame Lake.

Construction of a new weigh scale site along Highway No. 16 in the vicinity of Marshall was started during the fall of 1984.

Maintenance

The highway system maintained by district forces includes:

- 1994 km of gravel surface
- 1074 km of oil treated surface
- 1103 km of paved 2-lane surface
- 20 km of paved 4-lane surface
- 71 km of roadways in campgrounds and provincial parks.

Maintenance is provided by 32 section crews, and 8 special crews.

District shop staff provide service for a fleet of approximately 370 power units and other numerous pieces of equipment.

Maintenance forces used 9 430 700 L of liquid asphalt, 337 300 t of processed aggregate and 46 900 t of bituminous mix.

The district seal crew completed a total of 357 km of seal coat. This was made up of 201 km of seal on oil treatment, 121 km of seal on construction and 35 km of rehabilitation seal.

Forty-four km of subgrade was stabilized.

Dust treatment with calcium chloride and magnesium chloride was completed on 140 km of road north of Meadow Lake.

460 t of lime was used on about 50 000 m² of road.

North Battleford District



The district tendered the crushing and stockpiling of 125 000 t of traffic gravel and 107 500 t of bituminous repair aggregate. In addition, 40 900 t of bituminous mix was tendered.

For winter maintenance, district forces used 7200 t of salt, 7100 t of sand and 48 700 L of calcium chloride. This effort was required to maintain good winter driving conditions in a year in which the snowfall exceeded the long term average by about 25%.

Highlights this year included the establishment of a new section headquarters at Macklin. North Battleford district turned over the maintenance of about 34 km of Highway No. 14 and 25 km of Highway No. 17 to the Swift Current District. In return, the district gained 25 km of Highway No. 21 south of Unity from the Swift Current District and 32 km of Highway No. 14 south of Wilkie, from the Saskatoon District.

Other Activities

Under the Miscellaneous Special Construction program a loadometer site was constructed on Highway No. 14, one km east of Unity.

Safety improvements included the flattening of approach slopes on Highway No. 40 from Battleford to Wilbert and from Neilburg to Marsden. Other projects included the installation of guardrail at four locations.

Under Recreational Area Improvements, a seal coat was placed on various roadways at Jumbo Beach on Loon Lake and the district oil treated a boat launch at Battlefords Provincial Park.

A total of nine communities participated in Urban Assistance, Airport Assistance or Urban Traffic Safety Programs.

Delineation lights were installed at ten highway intersections.

Construction Accomplishments in 1984-85

Control Section	Location	Grading		Surfacing					
		Comp.	U.C.	Pvt. A	Pvt. B	Pvt. C	Pvt. D	Rehab.	U.C.
1-01	Manitoba Border — Moosomin							0.80	
1-01-30	Moosomin Scale Site			2.00					
1-02	Moosomin — Whitewood							4.80	
1-03	Whitewood — Broadview							12.80	
1-05	Grenfell — Indian Head	6.85		6.85					
1-05-6R	Auxiliary Road at Indian Head	0.14		0.14					
1-05-8R	Service Road at Indian Head	0.58		0.58					
1-06	Indian Head — Qu'Appelle	5.65		14.97					
1-06-8R	Service Road at Indian Head	0.14		0.14					
1-08	Balgonie — Regina							0.54	
1-08-6L	Auxiliary Road West of White City	0.58							
1-08-8L	Service Road West of White City	2.66							
1-09-70	Victoria Avenue in Regina							0.38	
1-10	Regina — Jct. 39 and 301	0.22		0.22					
1-10-42	Lewvan Drive in Regina			8.52					
1-19	Jct. 32 — Gull Lake							22.30	
2-19	Jct. 11 — Prince Albert							8.78	
2-23	Jct. 916 — N. Jct. 165							10.88	
2-24	N. Jct. 165 — La Ronge							0.21	
3-02	Erwood — Hudson Bay	13.39							8.00

Control Section	Location	Grading		Surfacing					
		Comp.	U.C.	Pvt. A	Pvt. B	Pvt. C	Pvt. D	Rehab.	U.C.
3-04	Prairie River — S. Jct. 23							1.00	
3-05-40	Eldersley Access						1.85		
3-14	W. of Shell Lake — Spiritwood							11.90	
3-17-41	Paradise Hill Access		0.11						
4-05	Swift Current — Saskatchewan Landing Bridge							10.23	3.60
5-07-40	Bruno Access	6.95				6.95			
5-07-8R	Service Road at Humboldt						0.45		
5-09	East of Saskatoon — Jct. 41	0.10		0.10					
6-07	South of Qu'Appelle Valley — Southey							1.53	
6-11-8R	Service Road at Naicam						0.17		
6-12-8R	Service Road at Naicam						0.32		
8-02-40	Storhacks Access						1.30		
8-05	Moosomin — Qu'Appelle River Bridge			25.76					
8-05-20	Rocanville — Sylvite Mine			0.20					
9-01	U.S. Border — W. Jct. 18	5.86							12.15
9-02	E. Jct. 18 — Carlyle							5.00	
9-03	Carlyle — N. Jct. 48							2.00	
9-12	Jct. 49 — Usherville		2.90						
9-15	Hudson Bay — Manitoba Border	11.00	6.10						
10-03	Yorkton — Melville							22.77	
10-06	Fort Qu'Appelle — Jct. 1							2.31	
11-01	Regina — Lumsden							3.60	
11-01-70	Ring Road in Regina							0.36	
11-02	Lumsden — Bethune	4.65		16.02					
11-02-8L	Service Road East of Disley	0.54							
11-03	Bethune — Findlater	5.13		9.08					
11-10	N. Jct. 16 — Warman	0.20		0.20					
11-13	Duck Lake — Jct. No. 2							0.74	
12-04	North of Martins Lake — Shell Lake	1.10	5.82						
13-13-40	Ponteix Access					0.57			
13-15	Shaunavon — Eastend	0.48				0.48			
13-16	Eastend — E. Jct. 21	12.10				12.10			
14-15	Biggar — Landis	0.05					0.05		
14-18	Unity — 29 km West			7.59	0.76				
14-19	29 km West of Unity — Alberta Border			8.34	11.06				
15-06	Leross — S. Jct. 6	4.82	5.18						
16-23	Jct. 11 — Borden Bridge	2.85		0.10					
16-24	Borden Bridge — Radisson	0.60							
16-28	Bresaylor — Maidstone			9.33					
16-30-31	Scale Site West of Marshall	1.32							
18-04	Estevan — Torquay				13.35				
18-05	Torquay — Oungre				0.16				
21-08	Leader — Eatonia	16.05				16.05			
21-12	Kerrobert — Unity				23.07				1.80
23-03	Chelan — Crooked River							7.64	
23-04	Crooked River — Jct. 55							5.00	
26-03	Turtleford — N. Jct. 3	2.89	2.20						
32-02	Success — Cabri				22.37				
33-01	Stoughton — Fillmore							14.70	
35-10	Leross — Elfros							0.50	
35-14	Jct. 349 — Tisdale							9.60	
35-16	Jct. 335 — Nipawin							2.05	
35-16-40	Nipawin — N. Jct. 55							0.31	
37-03	Shaunavon — Gull Lake			27.15					
38-02	Perigord — Chelan		8.43						
40-04-41	Rockhaven Access						9.67		

Control Section	Location	Grading		Surfacing					
		Comp.	U.C.	Pvt. A	Pvt. B	Pvt. C	Pvt. D	Rehab.	U.C.
41-02	East of Wakaw — Wakaw	10.80							
42-05	Jct. 342 — Milden	22.25				22.25			
43-03	N. Jct. 19 — Jct. 4	16.82				16.82			
44-06	Elrose — Eston							32.93	
44-08	Glidden — Mantario	1.35				1.71			
48-04	Jct. 47 — Jct. 35	4.80							
55-05	Jct. 123 — Nipawin							0.53	
55-07	Jct. 35 — Smeaton							7.62	
55-15	Meadow Lake — S. Jct. 26	9.54							
56-01	Indian Head — Qu'Appelle River	0.27		0.27					
102-25	La Ronge — Nemeiben River							0.10	
106-01	Jct. 55 — Jct. 120						26.83		
106-02	Jct. 120 — Jct. 165	4.20	14.87						
106-02-41	Little Bear South Access	1.25							
106-03	Jct. 165 — E. of Deschambault						2.39		
106-04	E. of Deschambault — Jct. 135						4.20		
120-01-1B	Access to Sandy Bay Campground	3.93							
155-03	Buffalo Narrows Bridge — La Loche						23.00		
204-01-1C	Boat Launch, Battlefords Provincial Park					0.15			
204-01-1K	Camp Office, Battlefords Provincial Park					0.20			
220-01-1C	Rowan's Ravine Provincial Park						0.49		
225-01	Jct. 2 — Jct. 312	3.33					3.33		
247-01-41	Access to West End						0.35		
317-01	Jct. 7 — S. Jct. 51						0.88		
334-02	Avonlea — Corinne	17.45							
342-01	Jct. 42 — Beechy	0.65				0.65			
361-01	E. of Lampman — Jct. 47	16.64				16.64			
363-01	Moose Jaw — Courval	3.50	3.90						
363-01-70	Jct. 363 — Jct. 1	0.80							
368-02	St. Brieux — Jct. 3	20.11					9.06		
368-02-40	Access to Pathlow	0.41							
371-01	Jct. 21 — Alberta Border					0.35			
378-02	Rabbit Lake — Spiritwood		1.08						
381-01	Manitoba Border — Jct. 8					4.90			
Totals District 1		69.70	—	27.15	31.99	70.98	0.88	65.46	5.40
District 2		76.46	3.90	58.79	13.51	16.64	1.79	48.82	12.15
District 3		29.21	22.61	25.96	—	4.90	0.35	23.27	8.00
District 4		21.55	—	0.40	—	6.95	0.99	—	—
District 5		34.33	21.77	—	—	—	47.66	66.36	—
District 6		13.75	2.31	25.26	25.27	0.35	32.67	—	—
Grand Total — Province		245.00	50.59	137.56	70.77	99.82	84.34	203.91	25.55

Construction Key

Control Section

A permanent unit of the highway system which becomes the basic reporting unit for construction and maintenance costs, service life characteristics, and various other data.

Grading — Completed (Comp.)

Grading completed within the year being reported.

Grading — Under Construction (U.C.)

Rehabilitation

The under construction portion of the project which is being carried over to be done in the next constructing season.

Work such as pavement resurfacing, carried out to restore a roadway to the standard to which it was constructed. This is warranted when maintenance operations are no longer adequate or appropriate. Differs from upgrading in that the design standard is not improved.

Pavement "A", "B", "C" and "D"

Oil

Represents different types of surfacing structures.

Oil treatment. Cold asphalt mix surface treatment of nominal thickness.

Surfacing — Under Construction

The paving portion of the project which is being carried over to be done in the next construction season.

The Engineering Division is responsible for the development of standards for the design, construction and maintenance of provincial highways, including the development of new and innovative processes. Certain programs, such as pavement markings and the administration of vehicle weight and dimension permits are also delivered by branches within this division.

A major emphasis has been placed on the development and implementation of computer based systems which will provide information to allow improved management of the highway system. This has required the co-operation and assistance of many branches within other divisions of the department.

A new Maintenance Management Information System was implemented during the past year. This system has been decentralized with data being input from remote computer terminals located throughout the province. Extensive staff training has been carried out to maximize the efficiency and value of this system.

In the previous fiscal year, initial implementation commenced on an Equipment Management Information System. This was continued in the present year and included an emphasis on staff training. Implementation of the system was almost completed by year end and will be a major assistance in managing the department's 2,854 pieces of equipment.

A major effort was placed towards the conceptual design of a Pavement Management Information System and obtaining approval to commence with full design of the system in the next fiscal year. This system will be of great benefit in projecting the performance and the resources required in maintaining the province's paved highway network.

The division has also emphasized productivity improvements which can be achieved through advances in equipment technology. A new generation of equipment for measuring the riding quality of pavements was acquired, calibrated and placed into service for monitoring the provincial highway system. A new department designed, high-speed pavement marking truck was constructed and placed into service during this fiscal year.

Evaluations of highway pavements to determine their strength characteristics were carried out utilizing enhanced equipment for non-destructive testing. Electronic engineering ground survey equipment was utilized in several districts to determine the feasibility and productivity gains which could be realized with these devices.

James W. Garner
Minister, Highways
and Transportation

J. R. Sutherland
Deputy Minister



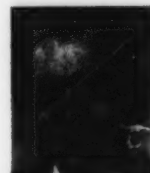
M. F. Clark
Engineering
Division



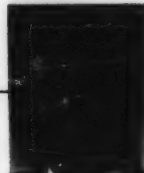
J. Syrnyk
Road Design
Branch



J. Palaschuk
Equipment
Branch



G. Helman
Surfacing
Branch



B. Martin
Maintenance
Branch



A. Widger
Geotechnical
Branch



H. Eley
Materials Testing
Branch

An evaluation of aerial photogrammetric surveys for use in calculating earth quantities for highway design and construction was made. Investigations into the engineering uses of man-made fabrics for strengthening weak foundations over which highway embankments must be constructed were carried out. Emphasis was placed on the use of improved earth materials to be incorporated in highway embankments.

M. F. Clark

M. F. Clark
Associate Deputy Minister (Engineering)

Engineering Division



Road Design Branch

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Equipment Branch



Road Design Branch is responsible for eight major areas:

- developing and updating design standards,
- reviewing geometric and drainage designs,
- general location reports and interchange design,
- reviewing highway lighting design,
- preparations of and updating manuals pertaining to design activities,
- providing advice and guidance on all matters pertaining to geometric, culvert and highway lighting designs,
- developing standards and policy pertaining to roadside development and to direct roadside development permit operations, and
- operating the department's air photo library.

Manuals

The development of new standards and the metrication of minor standards continued throughout the year.

The conversions of the hydraulic design manual to metric standards began this year.

Equipment Branch is responsible for managing the department's fleet of equipment. Staff in the branch are responsible for reviewing and updating policies, procedures and standards related to equipment operation and maintenance.

Equipment Fleet

The department's current fleet consists of 2,854 units, including trucks, tractors, graders, mowers, compactors, sweeper brooms, trailers, camp equipment and heavy construction equipment.

The majority of the equipment is used to maintain the highway system.

Fleet Operation

The cost of operating the department's equipment for the year was \$21.5 million. Repairs cost \$6.5 million, fuel and other operating costs \$5.7 million, ownership costs were \$4.3 million and \$5.0 million was spent on licences and administration.

Safety

Safety remains a most important aspect of geometric design. Accident data is a significant consideration in the development of standards

Air Photo Library

Library staff acquired 482 line km of photography and prepared 598 mosaic sheets.

Development Permits

The review of our existing development standards was completed this year. Approximately 350 subdivisions were reviewed and 330 permits were issued.

This branch in co-operation with Saskatoon District carried out a highway design using photogrammetry.

Our branch this year initiated a study on the use of computer graphics for highway design. This study should be completed in the upcoming year.

Equipment Purchases

In 1984-85, \$1.4 million was expended on new equipment acquisitions. The current capital cost of Saskatchewan Highways and Transportation equipment fleet is \$64.0 million. 49 requisitions were raised to purchase major equipment, support equipment, shop equipment and tools.

Rental Rates

Equipment Branch sets rental rates for equipment that is used on an hourly basis on highway construction projects. These rates are used as a guideline by the construction and roadbuilding industry. The rates were distributed to 200 contractors, equipment dealers, trucking firms, towns, cities and other government departments and agencies.

Rental rates for department owned equipment were calculated on a provincial basis. These rates are set to recover the costs of owning, operating, repairing and administering the department's equipment fleet.

C.V.A. Fleet

Central Vehicle Agency supplies cars and light duty trucks. The department leased 139 units in 1984-85 on a non-maintenance lease. Under this arrangement, the department is responsible for maintenance and operating and repays CVA for purchasing the vehicles. 251 units were under a full maintenance lease. The department pays for the units based on the number of kilometres driven. C.V.A. bears all costs for operating and maintenance.

Mobile Radio/Telephone System

Program reductions resulted in decreased use of the radio/telephone network. The department uses 820 mobile and portable units. The Kindersley repeater was moved to Smiley in order to provide better communication coverage on Highway No. 317.

Equipment Management System

The system has been current since December 1984 and is providing management information on a regular basis.

Conditional approval has been obtained from Saskatchewan Finance.

Training of field personnel on interpreting management information reports has been initiated.

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The mission of Surfacing Branch is to provide expert knowledge in transportation pavement design, construction and maintenance (techniques and materials) and to provide central unprocessed gravel resource management, to provide for the efficient and cost effective management and operation of a multi-modal transportation system for the Province of Saskatchewan.

The branch implemented a new Ride Monitoring System including re-calibration, panel ratings, new measuring equipment and computer programs. The measuring equipment uses an onboard computer to collect and store data. The processing of data will give faster returns of the results to field staff.

Surfacing Branch

Pavement Management

A pavement management system has been approved to provide information to department management. The system will be designed to manage the mature pavement system to effectively utilize the resources provided. The system will be designed in 1985-86 and implemented in 1986-88.

The 1985-86 rehabilitation program of \$17.5 million was developed for 561 km rehabilitation. The program consisted of \$14.1 million of overlay, \$1.4 million of spot improvements and \$2.0 million of seal coating.

Rehabilitation is an ever increasing demand on capital funds; efforts are being made to reduce those demands by using new technology. Seal test sections have been constructed to evaluate their effectiveness over the long term. Also a thin overlay test section has been designed for construction in the 1985-86 program year.

Standards and Policy

The branch in conjunction with Regina District has evaluated using steel slag in asphalt pavement construction on the Regina bypass. Steel slag is a by-product produced at IPSCO in Regina that improves skid resistance and increases asphalt concrete stability. The project will also include a "Plus-Ride" test section, to evaluate "Plus-Ride" effectiveness to reduce roadway icing.

Rubberized crack fillers have been evaluated and a report written with an implementation plan for maintenance of pavement cracks.

The branch participated in the development of new functional standards, providing cost/performance information to the committee.

Smaller projects such as asphalt rejuvenator for recycling, mix design for rut resistance, pavement temperature control for winter weights, and effects on increasing axle weights were evaluated.



Maintenance Branch

The mission of Maintenance Branch is to develop and review policies, standards and procedures for cost effective maintenance of provincial transportation facilities; to provide expert engineering advice and information regarding maintenance practices and procedures; to provide pavement marking services for provincial highways and airports; and to administer vehicle weight and dimension legislation for provincial highways including control of overweight and overdimension vehicles.

Program Standards

During 1984-85 the department maintained 23 404 km of provincial highways and provincial roads; this represents an increase of 218 km over the previous year. The system was composed of 8690 km of staged or full pavement, 1075 km of light pavement, 8954 km of oil treatment and 4685 km of gravel road. The department also provided maintenance on 367 km of tourist facility roadways and sites.

The approved 1984-85 maintenance budget of \$79.6 million represents an increase of 0.5% over the previous year. The department was still able to meet or exceed its objectives for surface maintenance. The Riding Comfort Index on oil treatments ranged between 5.6 and 5.8 throughout the year as compared to the 5.4 objective. The department was also able to increase its level of service for winter maintenance.

The Maintenance Practice and Procedures Manual had 14 sections revised and 14 new sections added. The Maintenance Policy and Procedures Manual had 14 new sections added and 15 sections revised. The branch carried out eight special studies for use by executive management and district managers, including the development of new base standards and allotments for the maintenance program.

Implementation of the new Maintenance Management Information System was completed during the year. This included the installation of remote terminals at 17 area headquarters for data entry and report retrieval. Further enhancements to the system including equipment usage began late in the year.

Pavement Marking

The department striped 21 890 km of centreline and 16 829 km of shoulderline. This was 950 km below objective but all highways were marked at least once during the year and most high traffic areas were marked two or three times. The yearly snowfall led to two weeks of lost production in October which is usually the peak month for accomplishments.

During the year a second large high speed pavement marking machine was introduced. The new high speed striper, their designer Les Jeanes, Pavement Marking Supervisor and other contributing department staff were featured in the department's "In Motion" and the "PSC Post".

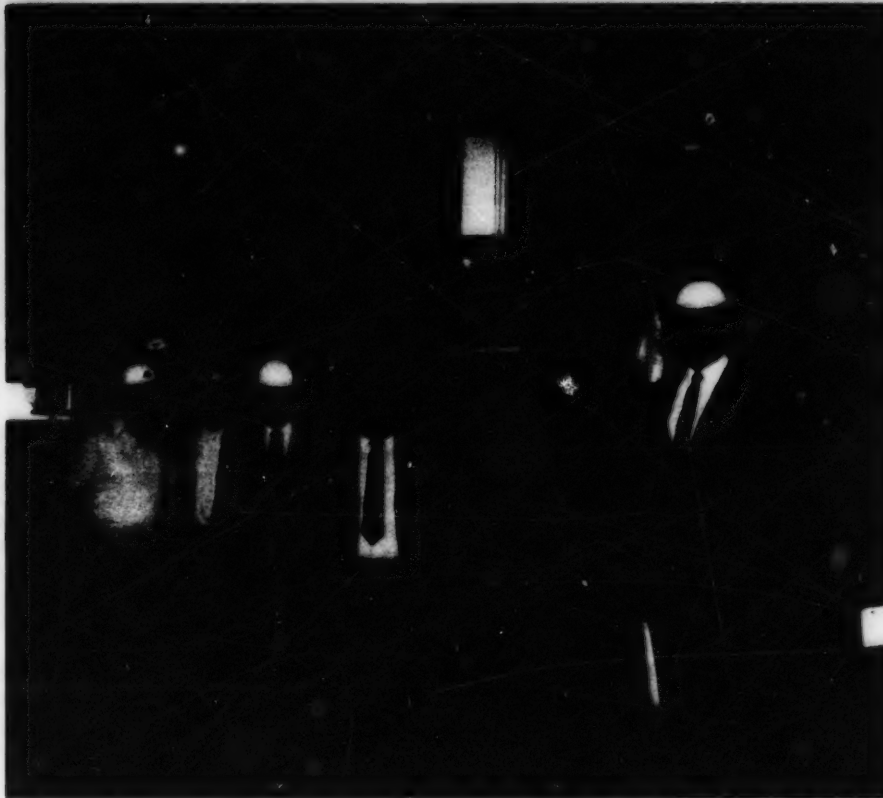
Weights and Dimensions

The vehicle weights and dimension regulations were amended to include the definition of provincial roads as now shown on the highway map. Dimension controls were extended to include these roads and provide protection for other users. Other regulation changes were administrative in nature to help clarify their intent.

During the year a total of 35,153 permits were issued for overweight and overdimension loads. This represented an increase of 2,410 or 7% over the previous year and is 19% above the average of the past 5 years. The 21,231 permits issued by the Provincial Permit Office in the Maintenance Branch is within 4% of the previous five year average. The number of permits issued by the districts was 1,347 while the number of weight and dimension permits issued by the Central Permit Office grew to 12,604 compared to 8,041 in 1983-84 and nil in 1982-83.

Policy changes were made in several areas to improve transportation productivity and still protect other highway users. Conditions for the movement of overdimension farm machinery were simplified to reduce the cost of traffic accommodation requirements. Special or blanket permits for heavy haulers were extended to higher limits to reduce the contacts required to obtain permits. Introduction of night movement for overdimension loads was another major initiative accomplished by the branch. This permit is limited and has stringent traffic control requirements for signing and lighting.





The new line striping machine designed by the Department of Highways and Transportation.

Premier Grant Devine, the Hon. George McLeod, Minister of Supply and Services and Les Jeanes, Department Line Striping Supervisor, view line striper with line marking crew and members of the Moose Jaw Shop who built the unit.

The major responsibilities of the branch are the development of geotechnical standards for subgrade construction, major site investigations, provision of technical advice to other units in the department and co-ordination of the departments environmental and heritage resource submissions.

Standards and Policies

Work continued on studies related to geotechnical standards and policies with special emphasis placed on geotextiles and select subgrade layers. A subgrade log was developed to enable better retention of subgrade construction information.

Site Investigations

Site investigations require test drilling, sampling of soils, testing of soil properties and engineering designs.

The site investigation for the bridge replacement over the Carrot River on Highway No. 335 was completed. Site investigations were also completed on a number of small bridge sites.

Monitoring of the abutment fills at the Meridian Bridge on Highway No. 17 and Borden Bridge on Highway No. 16 was continued.

A joint site investigation research program with the University of Saskatchewan was continued and provided a geological-geotechnical framework for future construction along the North Saskatchewan River.

Staff Training

The branch continued its role in providing technical training to staff in other branches and divisions.

Geotechnical Branch



Materials Testing Branch

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Environmental Liaison

Geotechnical Branch continued its role as the department's official liaison with the Department of Environment. This involves a compilation of the departments capital grading program for submission to the Department of Environment for environmental approval. The long range program was also submitted to obtain classifications for all grading projects.

The branch also reviewed and provided comments on environmental legislation and guidelines.

As the official liaison with the Department of Culture and Recreation on heritage resource concerns relating to the capital program, the branch submitted and received approval for the current projects as well as working on the long range program.

More than 11,500 tests were conducted in the central laboratory to evaluate materials for highway design, construction, performance and research. The lab continued a study into methods of predicting stripping in asphalt pavements. Several additives were evaluated for improving durability. A study was also continued into causes of hardening of maintenance asphalt mix stockpiles. A laboratory evaluation of geotextile products was carried out for use in subgrade reinforcement. Testing services were also provided to the Department of Rural Development for bridge foundation analysis. In addition, six coring machines and 89 field testing laboratories provided on-the-job testing. Forty-five portable nuclear density meters, one borehole meter and four asphalt meters were serviced and calibrated for construction project use. A study of bearing strengths was continued using a dynamic vibratory system.

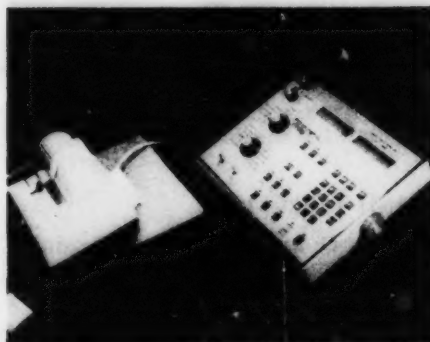
A total of 57 000 km of paved and oil treated surfaces were tested with car road meters to assess riding quality. The tests aid in maintaining appropriate levels of riding comfort on various highway systems.

Benkelman beam deflection tests were conducted on 1750 km of pavements at

13,000 individual locations. The tests aid in determining load carrying capacity of pavements and in designing pavement structures. Skid tests were performed on major bridge decks and overpasses and several sections of provincial highways to detect potential slippery areas.

A rotary drill bored a total of 2940 m of test holes to investigate foundation and slope stability conditions for bridge and valley crossings and to provide instrumentation during construction. Sites include bridges or valleys near Tramping Lake, Muddy Lake, Estevan, Eastend and Ballentyne River on the Hansen Lake Road. Further geotechnical work was also carried out along the North Saskatchewan River in the areas of Maymont and Petrofka in conjunction with the University of Saskatchewan. Carbon dating of wood samples obtained at these sites provided significant new geological information as to the sequence of in-filling in these valleys.

Branch staff provided supervisory assistance for several construction projects including asphalt mix designs of the expanding recycled pavement projects. Additional emphasis was placed on materials schools for training of maintenance staff.



A new tool for Materials Testing Branch.

The Cox Roadmetre, located in a department vehicle, is used to measure the quality of the ride on each km of dust free highway in Saskatchewan. The device measures axle to body movement as the car drives over the road and transmits the data, via a magnetic tape, to a computer.



This was the first full year of operation for the division with all branches in place.

I believe that the division has made great strides in not only becoming an efficient operating unit but also an integral part of the department. Considerable effort was made in refining the objectives of each branch and identifying areas requiring further development. Considerable scope was found to exist for achieving efficiencies in the transportation of Saskatchewan products. Close liaison was maintained with federal government agencies and other provinces in areas of mutual interest, particularly the transport of bulk commodities such as potash and grain. A good deal of emphasis has also been placed on technical research which we believe will provide more and better information for future transport decisions.

The mission of the division can be stated as follows:

- to formulate policies and programs for the purpose of developing improved transportation systems for the province and to plan for a safe, efficient integrated multi-modal transportation system.
- to prepare appropriate initiatives, interventions and responses to further the best interests of Saskatchewan transportation users.
- to provide information and specialized technical assistance concerning transportation to other departments and agencies of the Provincial Government, and to communities, carriers, and transportation users within the province. This includes the development, implementation and monitoring of policies and practices with respect to the movement of dangerous goods by road.
- to arrange for the co-ordination and provision of the technical research required by the department.

Operations for the division were conducted by the five branches, which are:

Planning Support Branch; and
 Technical Research Branch.
 Transportation Policy Branch;
 Transportation Systems Branch;
 Capital Program Planning Branch;

James W. Garner
 Minister, Highways
 and Transportation

J. R. Sutherland
 Deputy Minister



P. Pearson
 Transportation
 Planning and
 Research Division



R. P. Couturier
 Planning
 Support Branch



N. Petrovitch
 Transportation
 Policy Branch



Technical Research
 Branch
 A. Horosko



B. Churko
 Transportation
 Systems Branch



M. Hassan
 Capital Program
 Planning Branch

Specific programs and achievements are provided in the individual branch reports.

Philip Pearson
 Executive Director
 Transportation Planning and Research
 Division

Transportation Planning and Research Division



Planning Support Branch

The mission of Planning Support Branch is to conduct studies and analyses related to special transportation issues, and to provide statistics and information on transportation demand. Interdepartmental and intergovernmental liaison is also provided on planning, statutory and regulatory matters that affect the department.

Technical Advances in Traffic Monitoring Equipment

Traffic monitoring equipment has undergone dramatic changes due to technical advances. In the 1950's traffic counters provided only 24 hour cumulative totals on a paper tape. Counters producing hourly totals were introduced in the 1960's. Then in the 1970's punch tape counters were introduced with computers used to process the data. The 1980's saw the advent of solid state counters with information stored on micro chips. The data from the early counters were processed manually whereas today a fully computerized system for processing and analyzing traffic counts is available.

Other significant changes in traffic monitoring equipment have taken place. Timelapse photography for vehicle classifications has replaced some of the manual methods. Portable electronic weigh scales with digital readouts have replaced the mechanical type scale for truck weight studies. Radar units have replaced the manual time/distance measurements for determining vehicle speeds. The stationary radar mounted on the roadside is being replaced by the more sophisticated moving radar which can record speeds as the survey vehicle travels along the highway.

During the year some of the activities which Planning Support Branch was involved in were:

Traffic Analyses:

- obtaining traffic volumes on the provincial highway system. Total travel on the provincial highway system increased by 0.5% from 1983 to 1984.
- preparing a report indicating the costs and benefits of extending the primary weight system.
- conducting a study on the influence of level of enforcement to compliance to truck weight regulation.
- studying the speed of vehicles in maintenance zones. In general the average speed was determined to be 59.5 km/h in maintenance zones signed at 60 km/h maximum.

- conducting an all vehicle origin-destination survey on Highway No. 1 near Caron and Highway No. 11 near Craik.
- studying the frequency of occurrence of vehicles using paved shoulders.
- conducting a review of traffic counting procedures and equipment used by other provinces and the United States.
- collecting truck weight data from all permanent highway weigh scales located throughout the province.
- developing a five year program for the construction of loadometer sites which are used by portable weight scales in the enforcement of vehicle weight regulations
- testing the accuracy and reliability of various makes of traffic monitoring equipment.
- conducting miscellaneous traffic studies dealing with highway capacity, traffic accidents and traffic operation.

Transportation of Dangerous Goods:

- co-ordinating provincial participation in the review of federal regulations on transportation of dangerous goods and the development of the federal-provincial dangerous goods program.
- providing continual liaison with local governments, industry and the general public.
- providing assistance in the preparation of provincial legislation.

Northern Transportation:

- preparing a submission which was presented at the Canadian Transport Commission hearing at Stony Rapids on the Lake Athabasca barge operations.
- providing on-going support to the department on provincial transportation issues in northern Saskatchewan.

Interdepartmental Liaison:

- Acting as a liaison with other departments on subjects such as tourism, abandoned railway rights-of-way, critical wildlife habitat, Indian land entitlements, airport facilities, urban planning and various other legislation and regulations. An agreement was successfully negotiated between the federal government, the City of Moose Jaw and the department to reconstruct the access road to the Canadian Forces Base at Moose Jaw.



The Mission of the branch is:

- to lead and coordinate the establishment of research programs aimed at improving the construction, function, safety and durability of Saskatchewan highways and other provincial transportation facilities.
- on behalf of any unit of the Department of Highways and Transportation, to provide or coordinate required research efforts or provide assistance and advice with respect to research efforts.
- to make recommendations or provide assistance concerning the implementation of new methods, materials or procedures.
- to monitor and participate in technical research activities involving other governments and organizations.

The branch is organized into two specialized sections; the Materials Research Section and the Transportation Research Section.

Materials Research Section

Materials research staff continued several long term research projects during 1984-85, established one new long term project, undertook a full scale materials test on the department's test track and prepared and distributed four technical publications.

Long Term Research

Data collection and performance evaluation continued on long term research into asphalt hardening, the performance of staged and thin pavements, pavements with sulphur, ash from coal-fired power stations, thin overlays on badly-cracked pavements and rubberized crack sealants. A new project was established to study the effectiveness of surface treatments on pavement surfaces.

Test Track

The test track was operated for five months to enable completion of a geotextile performance project and an analysis on the test track instrumentation. The geotextile project was conducted jointly with the University of Saskatchewan. The experimental information will be used in a student's Masters thesis. The instrumentation analysis and recommendations were documented in a detailed report which will form the basis for further study of the

effectiveness of test sensors and improvements to the data acquisition system.

Publications

Four technical publications were prepared and distributed. Two publications described the findings of long term research projects constructed on Control Sections 33-02 and 48-05 to compare the performance of different surface types on staged pavements. The findings showed the following:

- single sealed granular bases can perform as well as double seal or cold mix surfaces;
- primed shoulders are as effective as sealed shoulders; and
- 25 mm cold mixed surfaces are as effective as thicker cold mixes on granular base courses.

The third publication described the performance study of oil treatments and 100 mm granular base using Tensar. The study showed that Tensar created bond failure problems in these surfaces and that thicker structures are required to derive benefits from Tensar.

The fourth publication documented the extent and type of erosion problems experienced by the department. It showed high frequency and repeated erosion problems mainly effect ditch bottoms and side slopes, and that repair of outstanding non-repaired erosion problems would require a commitment equal to 0.4% of the capital budget.

Transportation Research Section

Transportation Research Section staff, in addition to special secondment duties for branch administration and test track instrumentation, continued to provide specialist advice and assistance on matters pertaining to roadway lighting, geometric design, safety barriers and traffic safety. Staff also continued the culvert hydraulic project and a snow plow visibility study.

Culvert Hydraulic Project

Investigation of flows in helically-wound corrugated metal pipe culverts indicated lower than previously assumed friction factors and led to the design of a retrofit inlet to increase culvert capacity. The simple improved inlet can, depending on flow conditions, increase the capacity of the pipe by up to 40%. These findings have been incorporated into a series of culvert capacity charts.

Technical Research Branch



Transportation Policy Branch

Snow Plow Visibility Study

An airfoil wind deflector design developed in wind tunnel tests at the University of Saskatchewan was field tested on a snow plow in the winter of 1984-85. Evaluation of the test results began at year end. Other measures being investigated include a radar-type proximity warning device, a vibrating tailgate panel to dislodge snow and various forms of warning lights.

Other Activities

Papers were prepared and presented at the international "Sulphur - 84" meeting

in Calgary and at the "Canadian Technical Asphalt Association" meeting in Saskatoon. Staff co-authored a paper for and participated in the "North American Pavement Management Workshop" at Toronto and served on the Roads and Transportation Association of Canada sub committee on Soils and Materials and on the Canadian Government Specification Board Committee on Road Materials. Seminars were organized in Saskatoon and Regina to present culvert hydraulic design information to department, other governments and consulting design engineers.

The mission of the branch is threefold:

- to formulate transportation policies for the purpose of developing improved transportation systems and services in support of the economic and social development of Saskatchewan.
- to provide information and expertise regarding extra-provincial legislation and regulations and intergovernmental transportation relations.
- to consult with and provide information and assistance to other government departments and agencies to Saskatchewan communities and to transportation users and carriers.

During the 1984-85 fiscal year close contact was maintained with federal and provincial agencies dealing with transportation matters. Activities included meetings and joint sponsorship of several studies and are described below by transportation category.

Rail

Grain Freight Rates

Increased grain rates came into force on January 1, 1984 as a result of passage of

the Western Grain Transportation Act and were revised upwards on August 1, 1984 to reflect increased railway costs and larger than anticipated grain movements. The branch has initiated an annual report which monitors and assesses the performance of the grain handling and transportation system.

Capacity Studies

The branch continues to monitor and study rail capacity in Western Canada. Staff attended the first annual meeting of sponsors of the Vancouver Rail Access Study. Sponsors met with terminal operators to discuss the extent and timing of future rail capacity shortfalls within the Vancouver area.

As a follow-up to the Thunder Bay Rail Access Study, which the department jointly sponsored, staff are monitoring the activities of the Thunder Bay Rail Issues Task Force. This task force is studying alternative ways of increasing transport and terminal handling capacity and will report next year.

A study to investigate the opportunity, the problems and the cost of the potential for joint track use of portions of Canadian National (CNR) and Canadian Pacific (CPR) track through British Columbia's Fraser and Thompson Canyons was



initiated during 1984-85. Transport Canada, the Canadian Transport Commission, CNR, CPR, British Columbia, Alberta and Saskatchewan are co-sponsors. The study is to be completed in the 1985-86 fiscal year.

Hearings

The Canadian Transport Commission held public hearings across Canada on the effect of the 1980 United States' Staggers Rail Act on deregulation on Canadian carriers and shippers. The branch prepared the province's submission to this hearing.

ports. The branch will prepare the province's submission to this hearing.

The Canadian Transport Commission held the major public hearing into lower grain rates (variable rates) proposed by CN Rail, Northern Sales and Cargill Grain in Saskatoon on March 11-15, 1985. The branch prepared the provincial submission which said that reduced grain rates must not be allowed at selected points but instead they must be applied to all grains from all locations to all destinations.

Branch Lines

Throughout the 1984-85 fiscal year the CTC issued decisions on Saskatchewan branch lines. The branch remains active in providing technical assistance to local railway retention committees. The following tables provide details for 1984-85.

Saskatchewan Lines Abandoned Pursuant to Canadian Transport Commission's Orders in Period April 1, 1984 to March 31, 1985

Subdivision	Miles	Point to Point	Date Abandoned
CN Dodsland	8.0	Smiley to Dewar Lake	August 16/84
CN Gravelbourg	45.9	Claybank to Mossbank	March 7/85
CP Matador	7.5	Gunnworth to Wartime	May 4/85
CP McMorran	30.5	Milden to Gunnworth	May 4/85
CP Pennant	5.7	Hazlet to Verlo	August 31/85

Canadian Transport Commission Decision's Effecting Saskatchewan Lines, April 1, 1984 to March 31, 1985

Subdivision	Miles	Point to Point	Date of Decision	Decision
CN Amiens	20.7	Shell Lake to Spiritwood	Sept. 7/84	Ordered Abandoned Effective Aug. 31/86
CN Carlton	28.2	Dalmeny to Laird	Sept. 28/84	Ordered retained to be recommended added to basic network
CN Erwood	49.2	Baden, Man. to Hudson Bay	Apr. 3/84	Ordered retained subject to further review
CP Fife Lake	17.7	Coronach to Big Beaver	Mar 19/85	Ordered CP Rail to reopen the line for service.

Saskatchewan Lines Added to Basic Network (Guaranteed Until Year 2000) By Federal Order in Council Pursuant to Recommendations By The Canadian Transport Commission

Subdivision	Miles	Point to Point	Date Added
CN Carlton	28.2	Dalmeny to Laird	Dec. 17/84
CN Gravelbourg	4.6	Hodgeville to Tyson	Dec. 17/84
CP Shamrock	33.1	Tyson to Hague	Dec. 17/84



Transportation Systems Branch

Rail Passenger

The branch continues its efforts to promote an improved and efficient rail passenger service for Saskatchewan. Staff monitored and assessed the work of the federal government's VIA Rail Task Force and were pleased that the Edmonton to Vancouver route will be added on June 1, 1985 to the previously restored Winnipeg to Edmonton route.

Marine

The province now has direct input to the Federal Minister of Transport on the planning and development of Canada's ports through the membership of the branch on: the newly created Western Regional Advisory Council dealing with ports in British Columbia, and the Central Regional Advisory Council dealing with ports in Ontario.

The branch prepared the province's submission to the Federal Merchant Marine Inquiry. This task force is to determine if Canada should develop a deepsea fleet. A task force report is expected in 1985-86.

The department continued to support the Port of Churchill Development Board and

staff attended board meetings. The board is jointly sponsored by the three prairie provinces and its objective is to increase utilization of the Port of Churchill.

Air

Staff continued to hold discussions with air carriers providing services to Saskatchewan to ensure that quality and reasonably priced air services are present.

Staff continued to assess the impact on Saskatchewan of the new Federal Domestic Air Policy to reduce the economic deregulation of commercial air services.

Staff continued to monitor the implementation of the \$35 million improvements being made at the Regina air terminal building.

Staff were involved in the development of the Transport Canada Saskatoon Airport master plan.

Work was initiated to provide input to the Federal government concerning their bi-lateral negotiations with the United States on air services.

The mission of the branch is:

- to provide recommendations for transportation policy and program development, and in conjunction with the private and public sectors, initiate steps leading to improvements in the safety, cost-effectiveness, and adequacy of transportation systems of concern to the users in the province, particularly with regard to the movement of bulk commodities.
- to provide expertise and information on transportation technology and to design and implement transportation systems both within modes and intermodally.
- to provide other groups in the department, other Saskatchewan Government departments and industry in the province with specialized technical assistance concerning transportation technology and systems.

The branch is organized into two specialized technical units; the Road Systems Unit and the Rail Systems Unit.

Rail Systems Unit

Regina Rail Relocation

In 1981, the Federal Minister of Transportation announced a \$23.75 million grant to assist Regina in its endeavours to relocate the North Regina CN rail yards and associated CP and CN subdivision to its north east periphery.

The unit assisted the city by providing specialized railway technical expertise. In addition, the unit participated as a member of the Canadian Transport Commission Technical Committee aimed at reducing the number of issues in disagreement as a result of the formal application filed March 31, 1984.

Yorkton Rail Relocation

With the assistance of the unit, the City of Yorkton continued their examination of rail relocation. The unit played a major role in negotiations with CP Rail. Negotiations continued in 1984 to finalize the project costs. The city has relied heavily in the past upon the unit for technical expertise and advice during negotiations with the railway officials and



has requested that the unit continue its involvement to the same degree.

Branch Line Inquiry of the Canadian Transport Commission

The unit in conjunction with the Road Systems Unit developed the Provincial submission to the branch line inquiry of the Canadian Transport Commission (CTC). Three innovative options to branch line abandonment were detailed in the submission. The options were proposed as three year demonstration projects on branch lines within the province which are affected by abandonment. All projects are proposed to be assisted jointly by the Provincial and Federal Governments. The demonstrations will test the feasibility of each option from the physical, jurisdictional and economical viewpoints.

In addition to the three options, an experiment involving in-field testing of tracks to determine the relationship of track capacity versus speed of operation was undertaken. From this experiment, the adequacy of the rehabilitation standard presently employed will be addressed.

Cost of Capital Review

The CTC public hearings reviewing the railway methodology to determine the appropriate cost of capital for railway operations were concluded.

The unit represented the province's views and interests during technical meetings with all parties aimed at reducing the number of issues required to be addressed by the public hearing process. The unit also assisted in the preparation of the provincial submission to CTC. The issue of railway costing is extremely important to Saskatchewan since it effects the grain rates charged to producers and forms the basis for determining the economic viability of branch issues.

To date no decision has been rendered from the CTC.

Miscellaneous

The unit carried out several studies required to develop provincial policies related to rail transportation.

Road Systems Unit

Bulk Commodity Policy

The Road Systems Unit staff negotiated several new agreements with shippers regarding industrial truck hauls pursuant to the terms and conditions of the Bulk Commodity Policy. These included

agreements with Broda Construction and Sunset Estates as well as a number of letter agreements covering road fees and vehicles for hauls pursuant to the Key Lake Mining Agreement and the International Minerals and Chemical Agreement. The staff also continued to administer other existing agreements.

Overlength Vehicle Program

Staff, in co-operation with Motorways Ltd. are testing the feasibility of operating overlength vehicles on the two-lane highway system on a night time only basis. The staff is continually monitoring this project to ensure compliance with the operating agreement.

Grain Handling and Transportation Studies

The unit, in conjunction with the Rail Unit, submitted a proposal to the McDonough Branch Line Inquiry to test alternative grain transportation modes in three study areas of the province. Staff also provided expert testimony at the Railway Transport Commission Hearing into proposed lower grain rates in March, 1985. The unit also provided estimates of road impact costs to the Canadian Transport Commission Hearing into the proposed abandonment of the Carlton subdivision between Dalmeny and Waldheim.

Vehicle Suspension Study

Staff continued to work with the University of Saskatchewan, Department of Engineering, to determine the reaction of various truck suspensions under dynamic loadings and their impact on road surfaces and vehicles. The study should be completed in 1985.

Fuel Consumption Study

The Road Systems Unit staff, in conjunction with industry officials, undertook a fuel consumption study relating to the operation of overlength vehicles. The study was completed in 1984.

Road and Transportation Association of Canada (RTAC), Canadian Council of Motor Transport Administrators, Vehicle Weights and Dimension Study

The Road Systems Unit staff were actively involved with officials from private industry and other governments in a national vehicle weight and dimension study intended to identify a group of vehicles that would be permitted on a nation wide basis at uniform weight and dimensions. The study is to be completed in 1987.

Traffic Impact Study

The Road Systems Unit staff conducted an extensive study of the impact of



Capital Program Planning Branch

vehicle length on passing maneuvers. The study entailed development of a computer model to predict vehicle conflicts when one vehicle is passing another on highways of different traffic volumes. The model is now being field tested.

Equipment Testing and Evaluation

Staff continued to work with industry officials in testing and evaluating new transportation technology. The unit again sponsored seminars throughout the year to familiarize industry officials of new developments and progress related to

studies undertaken at the national and international level.

New Vehicle Technology Studies

The Road Systems Unit staff conducted a number of studies regarding new vehicle technology for hauling bulk and raw forest products pursuant to existing agreements which could ultimately lead to benefits for both the province and the general transportation industry. These included two experimental potash haulers for Kleysen Transport and a new logging trailer for Prince Albert Pulp Co. Other studies are planned for 1985-86.

The mission of the branch is:

- to identify and assess present and future demands for highways, airports, urban transportation assistance and rural transit assistance in Saskatchewan, and
- to develop, monitor and evaluate strategic and short-range responses to these demands in terms of capital programs.

Major Activities

The major activities undertaken by the branch in 1984-85 were as follows:

Capital Programs

The proposed five-year construction program was reviewed and developed for the period 1985 to 1989, and the recommended 1985-86 capital program and budget were compiled. These activities involved, as in previous years, extensive liaison with Operations Division and its two branches and six districts, and with most branches of Engineering Division.

Development of the capital programs involves a great deal of background work and analyses. Examples include the updating of unit construction costs, and responding to specific requests from the Treasury Board staff during budget review.

Zero-Base Budget Review

In accordance with Treasury Board instructions, a zero-base budget review of the department's capital programs was undertaken. It involved assessment of highway construction and rehabilitation needs, and of the impact of various

budget levels on the construction industry and the road-users.

Highway Classification Review

A review of the functional classification of provincial highways resulted in the existing five sub-system classification changing into a three-tier classification in terms of "arterial," "collector" and "local" highways. The new classification brings Saskatchewan in line with the classification recommended by RTAC.

Urban Transportation Policy Review

Various options for the department's assistance for urban street improvements were studied. The option implemented in the 1985-86 budget restricted the department's assistance to highway routes through urban areas.

Highway Safety Improvement Program Review

This review was completed resulting in a shift in emphasis from guardrail installation to a larger variety of safety improvements throughout the highway system.

The Road Information Program of Canada (Trip/Canada) Submission

An assessment of the five-year reconstruction and resurfacing needs on Saskatchewan's paved provincial highways was made for inclusion in the country-wide highway needs survey conducted by the Canadian Construction Association under its TRIP/Canada program.

Employment Implications of Highway Capital Expenditure

A method was developed for estimating the employment generated or sustained



in Saskatchewan by capital expenditure on highways.

Grid Road Takeover Policy

On May 1, 1984 the department implemented a Grid Road Takeover Policy which stipulates minimum criteria that must be met before a rural municipal road would be considered by the department for inclusion into the provincial highway system.

Inventories and Statistics

The following inventories for which the branch is responsible were updated to include highway inventory, inventory of primary and secondary community airports and highway-railway grade crossing inventory.

The branch also compiled and submitted highway length and expenditure statistics to Statistics Canada and the Roads and Transportation Association of Canada.

Technical Papers

The branch director presented a technical paper entitled "An Overview of Canada's Road Transportation Requirements to the Year 2000" at the International Transport Congress, September 1984, in Montreal.

Technical and Specialist Services

A significant proportion of staff resources is utilized to provide specialist advice and assistance to senior management, other units of the department and extra-department units on matters related to highway planning, location and design standards, and to capital program related policies. Examples of such activities include:

- preparation of briefs, letters and background papers pertaining to the Saskatchewan Association of Rural Municipalities, Saskatchewan Urban Municipalities Association, Yellowhead Highway Association, Saskatchewan Roadbuilders, urban and rural municipalities, members of the public, and Federal and other provincial governments.
- representation in a comprehensive review of transportation for senior citizens in Saskatchewan conducted by the Standing Interdepartmental Coordinating Committee on Aging.
- technical assistance for various studies such as the Albert Street Functional Planning Study in Regina, and the Functional Study of the junction of Highways No. 7 and 14 at Saskatoon.



Regulation and Traffic Safety Division

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The mandate of this division is to promote legal, safe and economic operations concerning commercial and private vehicles within the province. This mandate is met within three working units, namely, Transport Services Branch, Driver and Vehicle Safety Services Branch and Highway Traffic Board Services Branch.

The division performs support functions for the Highway Traffic Board by developing policy options for possible implementation, administering the daily functioning of the Board, and by requesting or implementing Board decisions.

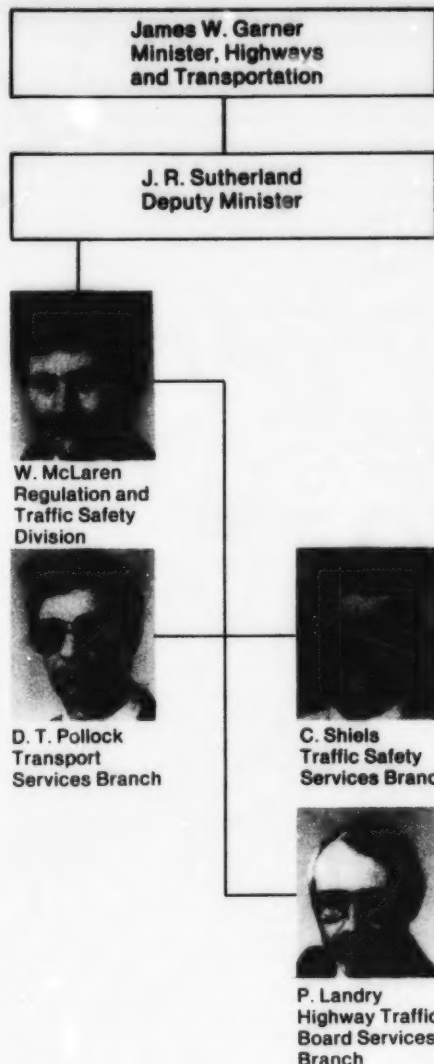
The public consultative process started with The Vehicles Act rewrite in 1983 continued in 1984-85. The division provided technical/secretarial support for the Truck Inspection Advisory Committee and issued a White Paper and Layman's Draft respecting All Terrain Vehicle legislation.

Implementation of recommendations made by the School Bus Advisory Committee also took place. Most notably, the installation of stop arms on all school buses in Saskatchewan and the publication of a school bus driver handbook.

In February, the Council of Ministers Responsible for Transportation and Highway Safety signed a Memorandum of Understanding on motor transport regulation. This agreement provides a blue print for reform in the coming years.

W. R. McLaren

W. R. McLaren
Executive Director
Regulation and Traffic Safety Division



The Highway Traffic Board Services Branch acts as a support group to the other two branches of the Regulation and Traffic Safety Division. It provides administrative support to the division and conducts policy development and analysis on specific topics assigned to it by the Chairman of the Highway Traffic Board (HTB). As well, it co-ordinates the legislation and regulation development for the division.

In 1984-85, the branch was in its second year of operation and it continued to co-ordinate the processing of all accounts and invoices by the division.

The branch co-ordinated the development of two sets of amendments to The Vehicles Act, 1983. Several changes to the Regulations were also developed.

In September 1984, the responsibility for overseeing HTB approval of most local government traffic bylaws was taken on by the branch.

The branch played a major role in discussions with other agencies on the establishment of speed zones throughout the province.

A system of manuals for use by members of the Highway Traffic Board and employees of the division continued in 1984-85. The system assists in ensuring the effective implementation and dissemination of established policies and procedures.

The branch worked on an implementation strategy for a new program which would allow certain non-profit groups to receive limited compensation when transporting certain types of passengers on what would essentially be a "charter" operation.

In the latter part of the year, the branch co-ordinated arrangements for the 1985 Annual Meeting of the Canadian Conference of Motor Transport Administrators.

Highway Traffic Board Services Branch

The Saskatchewan population has come to rely, for economic, geographic and social reasons, upon privately and publicly operated motor vehicles to the point that transportation can now be considered a basic necessity. For that reason, near universal access to motor vehicle transportation services at reasonable cost is required.

Our objective is the establishment of a motor vehicle transportation system which represents the optimum balance between operational costs, accessibility, public expectations and safety for all road users and for consumers of motor vehicle transportation services.

The strategies adopted by the branch stem from its legislative and administrative mandate. These include programs and activities related to driver development, driver records and control, vehicle standards and co-ordination and research.

Some of the special projects the branch has been involved in include preparation of Layman's Draft of an All Terrain Vehicles Act for public input, a comprehensive review of Vehicle Equipment Regulations, ongoing assessment of a probationary program for young drivers, and technical input into the development of new handbooks for

drivers in general, school bus drivers and motorcycle drivers.

Driver Development

The Driver Development Section is responsible for carrying out written, vision and practical tests of all applicants for driver licences. This section also conducts special assessments of senior and handicapped drivers and interviews drivers who accumulate bad driving records.

Except for residents of Saskatoon and Regina, all appointments for driving tests and interviews are booked through a toll-free central booking office in Moose Jaw. The booking office handled a total of 26,238 calls in an average time per call of less than two minutes. By monitoring demand throughout the province and reassigning staff time accordingly, the toll-free booking office has been able to reduce waiting periods for driving tests.

The section began staff development related to a new approach to driver education. Nine driver development officers attended a three week course in the early part of 1985. The course included instruction on advanced driving techniques and basic driver training following a revised in-car curriculum developed in co-operation with the Department of Education. The new

Driver and Vehicle Safety Services Branch



curriculum closely followed the methods described in the new driver's handbook.

Driver Records and Control

Up-to-date computer records are maintained on each of Saskatchewan's 600,000 drivers. The Driver Records and Control Section carried out 155,000 driver file updates and administered 13,596 statutory licence suspensions. A total of 332 driver files were referred to the Board for consideration and possible action on matters such as medicals, licence suspension appeals and poor driving records.

A total of 2,043 drivers, convicted for the first time of alcohol related driving offences, took advantage of the early licence reinstatement program. To qualify, they were required to complete an application and submit a \$150 driver licence fee, successfully complete a Driving Without Impairment Program (D.W.I.), and serve at least three months of the six month suspension.

Vehicle Standards and Inspections

Periodic inspection programs for school buses, buses, semi-trailers, power units, and vehicles converted to pressurized fuel continued to operate throughout the year.

Inspections are conducted annually under the school bus, bus and semi-trailer inspection programs. During the year 3,757 school buses, 863 buses and 6,129 semi-trailers were inspected under their respective inspection programs.

A total of 6,755 power units were inspected under the power unit inspection program conducted semi-annually. Under the Liquid Petroleum Gas Inspection Program, 1,493 vehicle inspections for pressurized fuel conversion were carried out.

Co-ordination and Research

The Co-ordination and Research Section provides liaison between Driver and Vehicle Safety Services and other departments of government, other levels of government, non-government safety groups and the public. The section was involved in the development of study designs related to the D.W.I. program and probationary licences. The section also conducted analysis of the public response to the White Paper on an All Terrain Vehicles Act.

The section conducted a series of seminars with public health officials to bring them up to date on the latest developments related to child safety seats and child seat legislation.

Transport Services Branch

The mission of this branch is to promote a smoothly functioning, viable motor carrier industry that follows established principles of public service protection and compensation. This is accomplished through two working units, the Transport Regulation Section, and the Transport Compliance Section.

Both of these sections work to the following objectives regarding motor carrier service:

- ensuring most people can obtain goods and services to maintain an acceptable standard of living, and that reasonable economic business requirements are satisfied through, accessibility of service, frequency of service, reliability of service and quality of service.

- promoting a system of transport services that results in the optimal allocation of transportation resources within the Saskatchewan economy.
- promoting a system of transport services that operates within rate schedules to allow for delivery of relatively similar services.
- promoting a transport system that operates with minimal loss of life, injury, damage to property, and minimal social costs through safely operated vehicles, properly maintained vehicles and protection from dangerous commodities.

This branch has also been involved in evaluating the degree of regulation that the Board should engage in with respect to various sectors of the transportation industry.



Regulations have been amended to define courier services and to provide for relaxed entry standards. In this regard, applications are reviewed for fitness in terms of adequacy of managerial, financial, and equipment resources of the applicant.

Revisions have also been made to the transfer policy. Carriers are no longer required to provide proof that a vendor's authority had been exercised prior to a transfer. Instead, an applicant has several choices as to how he can demonstrate to the Board that public business will be promoted by a grant of the application.

The branch is involved in conducting studies relating to the evaluation of regulatory systems for each sector. Current reviews involve household goods, automobile carriers and private carriage. In conjunction with neighbouring provinces, a number of commodities will be reviewed with respect to processing under relaxed "ease of entry" standards. Regulatory reform initiatives on a national basis have resulted in this branch preparing papers on reversing the burden of proof from applicants to the opposition.

Transport Regulation Section

The market structure and performance of the motor carrier industry is subject to economic regulation. This regulation, designed to ensure adequate freight and passenger service to Saskatchewan residents, includes prescribing service levels, controlling entry into the market with respect to issuance of operating authorities to motor carriers, analysing carrier financial and operating costs and recommending changes in the rate structures and establishing the conditions under which carriers are allowed to operate such as bonding and conditions of carriage.

Motor Carrier Regulation Unit

Operating authority administration involves processing motor carrier applications for new authorities, providing administrative support to the public hearing process, monitoring carriers for fitness, and instituting disciplinary action. Revisions to

application forms and procedures has resulted in the processing time being reduced by two to three months. As well, a consumer relations function provides information services regarding the responsibilities and services provided by for-hire carriers. In 1984-85, 448 applications for operating authority were processed, of which 285 were from for-hire carriers.

Fitness Review Unit

One of the policies of the Highway Traffic Board is to promote compliance with all of the transport laws and regulations by those involved in the motor carrier industry.

A central registry of all transport law violations, along with a recording of the violators is maintained, and continuously reviewed. In accordance with pre-determined levels, registration and/or authority holders may be subject to action in the form of letters and counselling sessions.

During the past year, 83 letters were forwarded to carriers providing information on the Motor Carrier Disciplinary Policy and requesting information as to fleet sizes. Approximately 60 letters for the Level I and II stages were also issued. These letters provided carriers with information on convictions and an opportunity for the carrier to improve his level of compliance.

Carriers continuing to incur convictions following the initial warning will be requested to meet with the Compliance Review Committee of the board in a show cause or disciplinary hearing. To date, carrier compliance levels have remained at the Level I and II or initial stages.

Vehicle Registration Unit

The vehicle registration and permit policy was reviewed, established and adjusted to meet the needs of approximately 830,000 vehicles requiring registration in Saskatchewan.

Personalized licence plates were introduced for both private passenger and farm vehicles.

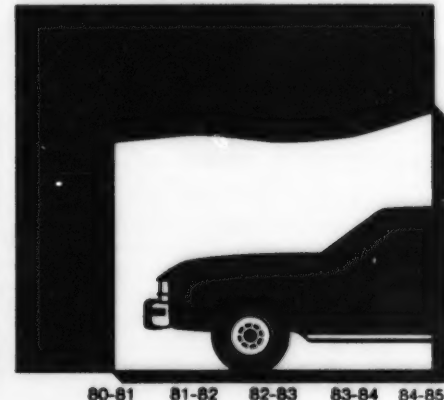
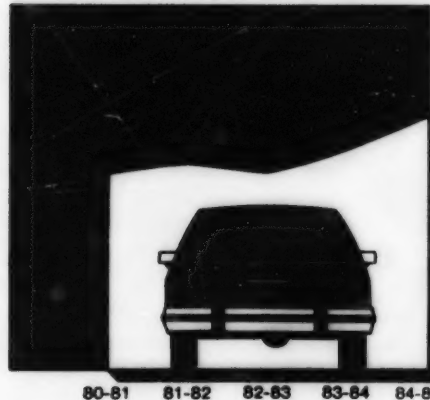


Number of Vehicles Registered

(as of December 19, 1984)

Class	Description	Number of Vehicles Registered
A	Public Service	1,757
AG	Rural General Merchandise	207
C	Commercial Vehicle C	21,037
C	Commercial Vehicle D	26,491
F	Farm Truck	152,023
R	Restricted Farm Vehicle	10,602
PV	Private Vehicle	494,021
T	Private Trailer	88,488
TS	Commercial Trailer	11,365
PB	Passenger PSV Bus	142
PC	Passenger City Bus	371
PS	Passenger School Bus	3,374
PT	Taxi	526
MT	Motor Toboggan	12,592
L	Licensed Auto Dealer	3,413
LT	Licensed Trailer Dealer	89
GC	Federal Government	2,017
	Total	828,515

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Central Permit Office

A central permit operation has continued to service the motor carrier industry on a round-the-clock basis. Permit authorizations for operating authorities, vehicle registrations, and weight and dimension authorities are provided. 55,162 permits were issued in 1984-85 which generated revenues of approximately \$2.4 million.

Board Affairs Unit

Board Affairs provides administrative secretarial support for the Motor Carrier Committee of the Highway Traffic Board. The Administrator assists applicants by counselling them on hearing procedures, by encouraging pre-hearing meetings and by scheduling hearings both within Saskatchewan and in co-operation with other provinces' transport boards where

convenient to parties to the hearing. Essentially the Board makes every attempt to expedite the application process. Over the last year, public hearings were held to consider 38 applications. This was a decrease from the previous year due to fewer applications being opposed.

Rates and Legislative Review and Transport Information Statistics Units

These units developed, co-ordinated and evaluated research with respect to motor carrier industry trends relating to the demand for and supply of truck transportation services on an area, route, commodity and equipment basis. Background research statistics and information were collected relating to the reviews of the various market sectors. In



1984-85, a new policy with respect to bulk petroleum rate setting was established which will freeze the minimum rate for three years, after which time carriers will be free to charge whatever rate they feel is appropriate. Adjustments were effected to the general merchandise, household goods, and express rates, and bus passenger fares. Several specific filed rates for petroleum and general merchandise were reviewed. In addition, a rate review committee was established to review the general merchandise costing formula and update the data.

Transport Compliance Section

This section is composed of traffic officers of the "Saskatchewan Highway Transport Patrol" and investigators of the "Transport Investigations Unit".

The purpose of this law enforcement group is to promote compliance with laws which protect the highways and govern the movement of vehicles, goods and people. Primarily, officers police the road transportation industry. They have the authority to promote highway safety for all vehicles by taking action on flagrant violations when encountered.

Program delivery takes place from 14 permanent weigh scales, five patrol offices and five investigation offices at 18 Saskatchewan locations. Activities are carried out around the clock. The primary activities of these officers include weigh scale duty, patrol work and off-highway investigations. Their main enforcement programs cover weight and dimension, economic regulation (operating authority and registration) and vehicle/driver safety. Officers work together with people from the road transportation industry, other government departments, the police and general public.

This was another busy year for enforcement staff who were responsible for conducting 1,074 investigations and 36,544 consultations on a wide variety of transportation related matters. Officers participated in 52 public meetings, discussing laws related to road transportation. They conducted approximately 130,000 weight and dimension inspections, 30,000 safety inspections and 50,000 inspections for operating authority and registration.

On February 15, 1985, a new weigh scale opened on Highway No. 1 east of Moosomin to improve service to highway transportation in eastern Saskatchewan. During this year, three Transport Compliance offices moved into district offices of the Department of Highways and Transportation to share their services and reduce costs.

This section participated in the study conducted by the Research Branch regarding the relationship of enforcement levels to compliance with weight regulations. The study demonstrated that there is a strong relationship between the presence of enforcement staff and the level of compliance with weight regulations.

Future enforcement activities will reflect the conclusions of this study in order to promote maximum compliance.

Of the charges and written warnings issued to companies, approximately 50% went to carriers based outside the province. A description of charges and written warnings can be found in the following chart.

Review of Charges and Written Warnings 1984/85

	Sub Total	Totals
Economic Regulation		
Registration	1,180	
Operating Authority	416	
Other	80	
Total	1,676	1,676
Weight & Dimension		
Overweight	1,539	
Overwidth	317	
Overheight	51	
Overlength	73	
Total	1,980	1,980
Vehicle & Driver Safety		
Vehicle Inspection		
Program	486	
Equipment Offence	480	
Driver Licence	260	
Rules of the Road	507	
Miscellaneous	168	
Total	1,871	1,871
Grand Total		5,527



Support Services Division

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The mission of the Support Services Division is to provide services essential to the overall efficient management and operation of the department.

The primary services are in the areas of staffing, personnel management and training, financial management and control, management and administrative systems, computer services, property acquisition and property management.

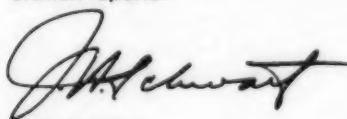
Organizationally, the division is structured on a functional basis with each of four branches, Personnel Services, Management Services, Financial Services and Property Services, providing the department with a specialized service.

The department continues to have a highly qualified, competent staff. Training and management development programs extend to all levels of the organization. This year 45 of our managers received training in Managing Human Performance. Four employees received Quality Circle Facilitator training.

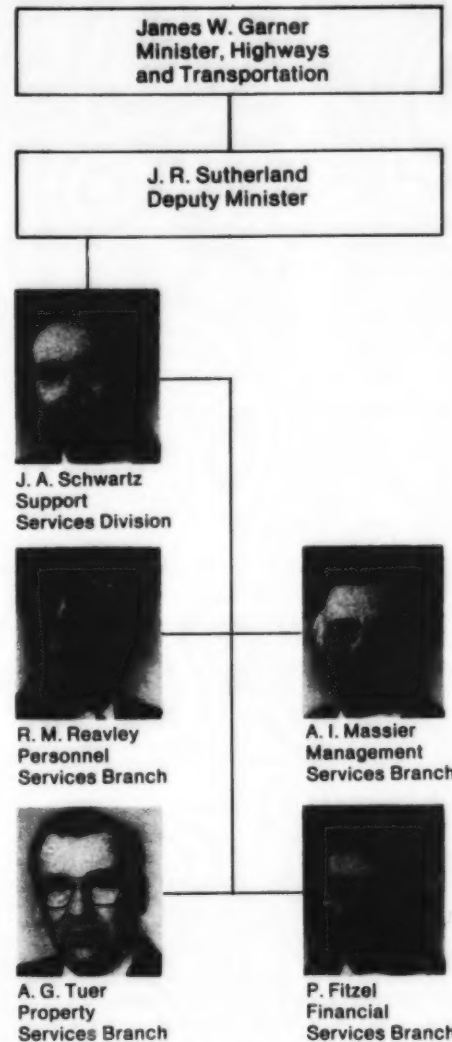
The department is highly advanced in the development and application of engineering, financial and management systems. Computer equipment has now been installed in most of the Area Maintenance headquarters. This allows for timely transmission and receipt of maintenance management information. An automated property inventory system was designed and implemented this year.

An organization review of head office branches of the Operations Division was conducted this year. Implementation of the recommendations of the study are underway.

Productivity improvement initiatives and accomplishments are being pursued and achieved on a continual basis. Details of specific services and accomplishments are provided in the following individual branch reports.



J. A. Schwartz
Executive Director
Support Services Division



The mission of Personnel Services Branch is:

- to provide assistance and guidance in areas of management of human resources, employee benefits, industrial safety, industrial relations, staffing, classification, staff training and development.
- to identify training needs and develop and deliver programs to meet those needs.
- to conduct manpower planning activities to ensure that the department will continue to have employees with the necessary skills to carry out its programs in an effective and efficient manner.

During the past year significant program changes have occurred, these include:

- the assignment of Public Service Commission Staff to the branch in order to more efficiently and effectively perform the staffing and classification functions within the department for all in-scope positions.
- participation as co-facilitators in "Managing Human Performance" training for out-of-scope managers/supervisors.
- participation in the Employment Office to assist employees affected by productivity/efficiency measures and privatization.

Labour Relations

Problem solving meetings were held with the Union on an on-going basis to resolve problems before they become formal grievances.

Staffing and Reclassification

Competitions were held to fill 83 public service and 146 labour service vacancies.

There were 19 employees who requested a review of their jobs to determine if they were properly classified.

Training and Development

The department maintained its emphasis on employee training and development activities during the year. Courses included management, supervisory, technical, trade and equipment operation.

A total of 361 employees attended 30 courses with a combined total of 717 training days related to management development. Courses included Tort Liability; ICES Cogo Roads; Transportation Engineer as a Court Witness; Managing Human Performance; Government Project Management; Effective Writing; Contracts and Specifications; Contract Law; Highway Geometric Design; Managing Stress; Users Role in Computer Based Systems; Improving Interpersonal Skills; Clerical Skills; Leader Effectiveness; Managing Conflict; Management of Special Projects; Managing Time and Managing Meetings.

A total of 63 employees attended courses sponsored by the Public Service Commission.

The equipment training section conducted or co-ordinated 80 classes for department employees during the year with a combined attendance of 748 amounting to a total of 844 training days.

Safety Section

A major objective of the department is to provide a safe working environment. The promotion of safety and training in the interest of injury and loss prevention, both on and off the job, forms an integral part of the Industrial Safety Program.

The following safety training was provided to employees:

- 498 person days First Aid training
- 798 person days of training in Defensive Driving and Professional Driving Courses
- 25 person days of Fire Fighting and Flag Person training
- courses were offered in Accident Causes, Occupational Health and Safety Committee training and Chemical Substances throughout the year

Public safety inspections were carried out on 392 occasions in order to reduce the possibility of injuries to the general public at our work sites.

Work place inspections were conducted on 357 occasions and the deficiencies relayed to department managers for correction, in order to reduce injury and losses.

Safety Section staff members attended 24 Occupational Health Committee meetings at various locations in the province in order to assist committees in functioning more effectively, and to provide guidance on safety matters.

Personnel Services Branch



Safety staff members conducted work site safety meetings dealing with topics of mutual concern, 1,565 employees participated.

Accident investigations, workers' injuries and concerns relating to department policy on occupational health and safety are administered on a continual basis.

During the year 78 medical aid and 102 lost time injury claims were processed representing a significant reduction of 21% over last year. There were 198 vehicle or equipment collision reports that were processed throughout the year, the lowest number in more than ten years.

Management Services Branch

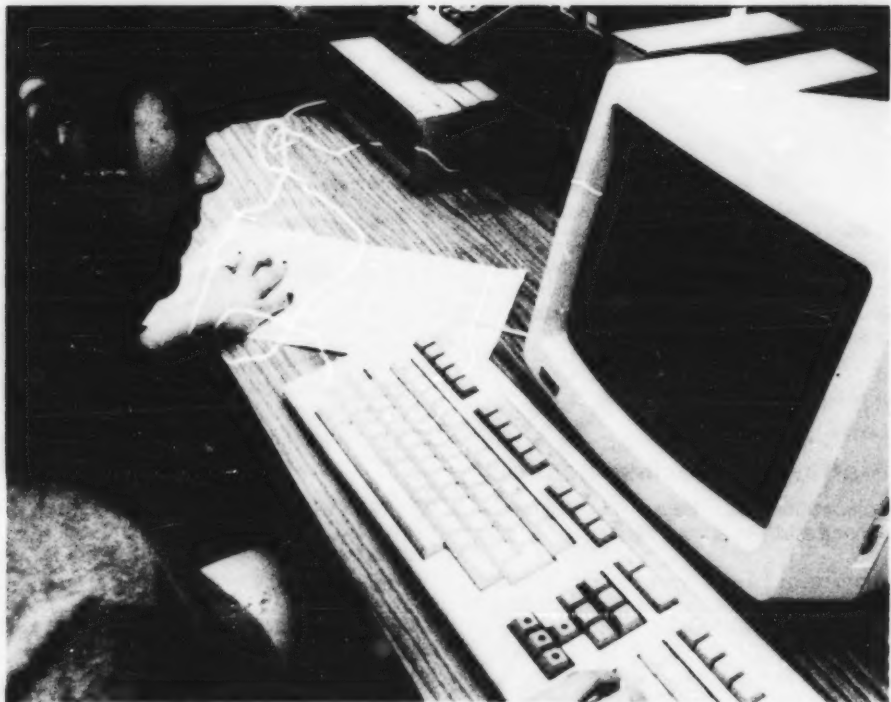
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Management Services Branch is responsible to provide, assist in and promote the analysis, development, implementation, operation and maintenance of effective and efficient Management Information Systems for the department. Some of the major activities are:

- developing and implementing Management Information Systems to meet the needs of the department.
- providing data processing services.
- training user branches and districts in the operation of data processing

equipment, related procedures and applications development.

- actively monitoring systems so that program managers at all levels have information available to review quantity, quality, time and cost status for each of their programs.
- co-ordinating and conducting organizational reviews of department units.
- providing liaison with other departments and agencies of government in the carrying out of assigned duties.



A time saving tool for maintenance staff, operated by Barbra Lukianchuk, Key Punch Operator.

The Maintenance Management Information System (MMIS) was implemented in June of 1984 as a system of daily reporting of work activities. The system provides all levels of management with accurate timely information on maintenance activities. The system consists of 18 D.E.C. Rainbow computers located in area offices around the province capable of linking up with the main computer.



The branch is continually involved in developing methods and procedures to improve productivity, and assisting managers in making better management decisions.

Major Activities

The new Equipment Management Information System was operated on a current basis this year. Considerable effort was expended on documentation and training. This system gives department managers up to date information on heavy equipment, stores inventory and shop management.

A new Maintenance Management Information System was implemented. This involved the installation of computers at maintenance Area headquarters. The information is collected, by the Areas, from the maintenance Sections on a daily basis and transmitted to the central computer. Information on the use of resources and related expenditures is now available on a daily basis. Year-to-date information is also available on a current basis.

Preparations were required to interface with the centralized Revenue and Expenditure System. All of our financial systems had to be modified to interface with this new system

Computer equipment was upgraded in the district offices. Word processing and personal computing capabilities are now available at these locations. As a result, productivity improvements have been achieved in the preparation of documents and local computer processing.

To improve the effectiveness of the department's computer processing, considerable effort was expended to assist branch and district managers in better utilization of their computer equipment.

A consultant has been commissioned to develop a long term plan to meet the department's needs in the area of electronic technology. The study is in progress and is to be completed next year.

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Property Services Branch is responsible for:

- the appraisal of and negotiation for land and rights in land required for various department programs.
- arranging the legal survey services in connection with departmental right-of-way and public improvement requirements.
- the registration of rights to property to meet the department's construction schedule and the Grid and Main Farm Access Road Program.
- payment for land where title has been secured for department programs.
- the management of property rights under the jurisdiction of the department pertaining to public highways and public improvements.

Legal Survey Contracts

The department's legal survey requirements for 1984-85 highway construction and public improvement projects were met.

Property Registration

The registration of plans of survey and legal documents was completed on time to meet construction schedules in respect to the provincial highway program. All legal plans received in respect to the Grid and Main Farm Access Program were processed.

Property Management

The volume of requests for consents, permits and other administrative considerations rose significantly during the year, however, a new streamlined approach to issuance of certain approvals was initiated reducing the number of individual approvals required. Staff therefore was able to maintain a satisfactory level of service providing reasonable turn-around time.

Property Acquisition

Appraisals were carried out and property acquired for right-of-way on 68 separate projects as well as a number of public improvements. Property agreements

Property Services Branch



negotiated increased by approximately 50% over the previous year and a high success rate was maintained. The new automated expenditure monitoring and control system for property acquisition was developed and placed in operation.

1984-85 Accomplishments

Plans of Survey recorded (all types)	1,185
Road and Public Improvement plans processed	291

Road and Public Improvement plans registered	326
Public Improvement and Misc. surveys contracted	34
Provincial highway surveys contracted	240 km
Consents and Permits issued	1,275
Property agreements paid	880
Property agreements negotiated	958

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Financial Services Branch

The mission of Financial Services Branch is to provide centralized financial services and timely required management information for department managers and government agencies, within specified guidelines and regulations in the area of:

- co-ordinating, processing, recording and maintaining records of financial transactions including payrolls, accounts payable, accounts receivable, requisitioning, and inventories.
- revolving fund administration.
- co-ordinating and monitoring administrative and revolving fund budgets and fiscal forecasts.

The branch processes payments and receipts, maintains records and produces financial and statistical reports. The branch also schedules and co-ordinates the preparation of the department's annual administrative budget, and the

highways revolving fund budget. Fiscal forecasts are prepared for Treasury Board Division on a regular basis.

In 1984, a government-wide automated budget preparation system was introduced into the department. The branch trained all budget officers in the use of the new system.

In late 1984, the branch began training for a new revenue and expenditure system being implemented government-wide. This system is to be implemented April 1, 1985.

A review of the current Labour Service Payroll system was initiated and development of a new system was started.

During the year, the branch acquired three personal computers which are being used in financial analysis and forecasting. They will also be used in budget development and analysis.

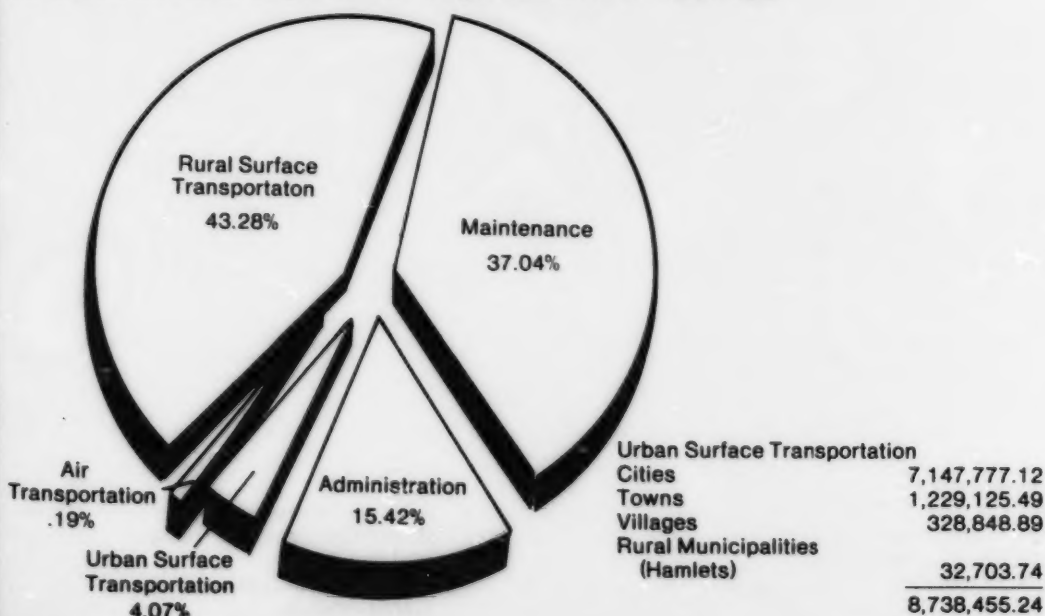


Appropriation and Expenditure 1984-85

Ordinary	* Appropriation	Expenditure
Executive Administration	\$ 934,350	\$ 1,036,692
Financial Services Branch	767,840	694,758
Personnel Services Branch	888,920	881,326
Transportation Planning and Research Division	1,981,800	2,005,667
Property Services Branch	828,020	791,858
Works Branch	111,150	92,739
Public Communications Branch	844,080	1,346,068
Operations Branch	972,160	1,009,285
Engineering Division	2,132,500	2,228,357
Traffic Safety Engineering Branch	308,950	337,283
Bridge Branch	500,130	441,353
Swift Current District	1,283,120	1,317,198
Regina District	1,813,010	1,788,675
Yorkton District	1,282,680	1,254,927
Saskatoon District	1,146,360	1,136,253
Prince Albert District	1,773,850	1,756,952
North Battleford District	1,564,800	1,531,002
Management Services Branch	1,201,070	1,161,955
Grants	177,920	176,673
Driver and Vehicle Safety Services Branch	2,609,870	2,618,912
Transport Services Branch	2,799,950	2,748,774
H. T. B. Services Branch	606,550	518,906
Payment to S. G. I.	6,282,290	6,282,290
	<u>\$ 32,811,370</u>	<u>\$ 33,157,903</u>
Maintenance	79,588,650	79,631,778
	<u>\$112,400,020</u>	<u>\$112,789,681</u>
Capital		
Rural Surface Transportation	\$ 99,050,000	\$ 93,049,872
Urban Surface Transportation	10,600,000	8,738,455
Air Transportation	350,000	401,165
	<u>110,000,000</u>	<u>102,189,492</u>
Total	<u>\$222,400,020</u>	<u>\$214,979,173</u>
*Appropriation does not include special warrants: Ordinary		\$ 2,000,000

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Analysis of Total Department Expenditure For 1984-85



Accumulated Expenditure to Date

Fiscal Year	Current Year	To Date	Fiscal Year	Current Year	To Date
1905-06	\$ 49,546	\$ 49,546	1945-46	3,908,367	96,893,623
1906-07	484,177	533,723	1946-47	6,312,801	103,206,424
1907-08	1,041,383	1,575,106	1947-48	8,840,535	112,046,959
1908-09	1,443,335	3,018,441	1948-49	8,853,999	120,900,958
1909-10	591,957	3,610,398	1949-50	8,767,610	129,668,568
1910-11	610,920	4,221,318	1950-51	10,118,744	139,787,312
1911-12	614,356	4,835,674	1951-52	12,823,535	152,610,847
1912-13	2,525,188	7,360,862	1952-53	18,919,646	171,530,493
1913-14	1,970,135	9,330,997	1953-54	19,135,070	190,665,563
1914-15	2,370,439	11,701,436	1954-55	20,395,779	211,061,342
1915-16	831,594	12,533,030	1955-56	20,127,262	231,188,604
1916-17	536,594	13,069,624	1956-57	24,140,190	255,328,794
1917-18	815,438	13,885,062	1957-58	24,491,369	279,820,163
1918-19	616,472	14,501,534	1958-59	23,697,574	303,517,737
1919-20	1,306,370	15,807,904	1959-60	23,104,119	326,621,856
1920-21	1,804,973	17,612,877	1960-61	25,237,066	351,858,922
1921-22	2,495,925	20,108,802	1961-62	21,591,307	373,450,229
1922-23	2,201,358	22,310,160	1962-63	22,094,828	395,545,057
1923-24	2,037,295	24,347,455	1963-64	24,167,674	419,712,731
1924-25	2,229,408	26,576,863	1964-65	27,152,511	446,865,242
1925-26	2,123,173	28,700,036	1965-66	40,679,979	487,545,221
1926-27	2,660,195	31,360,231	1966-67	54,387,704	541,932,925
1927-28	2,488,961	33,849,192	1967-68	60,227,543	602,160,468
1928-29	4,228,261	38,077,453	1968-69	60,110,923	662,271,391
1929-30	6,664,400	44,741,853	1969-70	58,560,829	720,832,220
1930-31	10,703,359	55,445,212	1970-71	68,081,718	788,913,938
1931-32	8,149,746	63,594,958	1971-72	66,933,052	855,846,990
1932-33	905,374	64,500,332	1972-73	63,362,093	919,209,083
1933-34	862,029	65,362,361	1973-74	69,456,878	988,665,961
1934-35	1,661,983	67,024,344	1974-75	96,760,356	1,085,426,317
1935-36	1,620,142	68,644,486	1975-76	110,162,524	1,195,588,841
1936-37	2,595,381	71,239,867	1976-77	123,321,325	1,318,910,166
1937-38	2,823,356	74,063,223	1977-78	132,425,146	1,451,335,312
1938-39	3,509,280	77,572,503	1978-79	160,610,850	1,611,946,162
1939-40	3,399,603	80,972,106	1979-80	158,107,523	1,770,053,685
1940-41	1,706,382	82,678,488	1980-81	168,287,313	1,938,340,998
1941-42	1,874,917	84,553,405	1981-82	191,474,090	2,129,815,088
1942-43	2,126,374	86,679,779	1982-83	192,829,361	2,322,644,449
1943-44	2,918,157	89,597,936	1983-84	215,968,431	2,538,612,880
1944-45	3,387,320	92,985,256	1984-85	214,979,173	2,753,592,053



